THREE fantastic competitions PLUS your chance to win the incredible BRUNWORD ROM inside this issue!

AMSTRAD COMPUTER USER

ACU

NOVEMBER 1991

ONLY £1.65 THE BEST VALUE

THE MAGAZINE FOR THE AMSTRAD 464 6128 & GX4000 CONSOLE

OFFICIAL



DANGER ZONE

Join in as ACU dares the chaos of Mirrorsoft's epic future-shock ROBOZONE.

THE 'WRITE' STUFF

Discover your darker side with a little CPC graphology.

AUTUMN HAYES

Buying a modem? Gen up first as ACU gives you the Baud and Bis lowdown inside.

BOMBALLEY

ACU introduces a brand new budget label, along with all the best from the CPC games scene. Miss out at your own peril!

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The Fujitsu DL900, the very latest in hi-res, low noise printing, gets the ACU going over.

M.C.M QUALITY EDITORIAL

11

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5·4·3·2·1·ACTION!

FREE

THUNDERBIRDS -THE COMIC

LIFTS OFF AT YOUR NEWSAGENTS - OCTOBER 19TH



BADGE WITH EACH ISSUE

THE GREAT ALL-COLOUR COMIC BASED ON THE TV SERIES IS PACKED WITH BRILLIANT PICTURE STORIES AND FEATURES. DON'T MISS THUNDERBIRDS-THE COMIC

ON SALE OCTOBER 19TH 1991

PRICE 65p



BrunWord

Complete Word Processing Package £30

BrunWord 6128 is a complete word processing Package consisting of a word processor, spelling checker and card filing programme. It out performs all other word processors for the CPC6128.

BrunWord uses its own high speed screen routine, giving it a very fast response. The editor features are logically arranged, to be easy to learn and the spelling checker with its dictionary load into memory at the same time as the word processor. The whole system is very convenient and exceptionally fast. It is supplied with an introductory tutor file.

BrunWord Features

*40, 80 or 128 columns. *Typing speed 200 words/min. *True insert or overwrite. *Justify or unjustify paragraph or whole text. *Balanced justification. *Instant word wrap. *Block save, move, copy, insert and delete. *Local editing with word delete/undelete. *Adjustable margins and TABs. *Word count. *Column/Line/Page display with file name. *Find and replace. *Help menus. *Memory files. *Single character embedded printer commands (18 with 3 codes and 21 with 10 codes). *Page throw markers. *Multiple copies. *Odd/even page headers/footers with page numbers. *Multi file printing. *Print specified pages. *Use any printer. *True display super/subscript numbers. *User defined characters. *Load/Save ASCII files from/to other word processors. *Files can be encrypted. *Maximum file size about 9 pages.

BrunSpell Features

*Memory resident programme and dictionary. *Checks 4,000 words/min. *30,000 word dictionary. *No American spellings. *Add up to 5,000 of your own words. *Instant lookup. *Helps to find correct spelling. *Automatic correction.

DataFile Features

*Alphabetical, numerical, date sorting. *User defined headings. *Search routine. *Data merging. *Label printing.

Quotes

"It may seem that I have just written a very long advert for BrunWord 6128 but I haven't, I'm just so impressed."
(Phil Craven, ACU Feb 90, page 25).

"One such is Peter Brunning's BrunWord 6128 which is without doubt in my mind, the most powerful and friendly word processor available for the 6128 today, with the possible exception of.... BrunWord Elite!"
(David Dorn, ACU July 90, page 43).

How They Compare

	BrunWord 6128 & BrunSpell	Protext Disc & Prospell	Tasword 6128 & Taspell
Typing into 241 word paragraph Typing into start of text	218 w/m 218 w/m	218 w/m 218 w/m	16 w/m 150 w/m
Scroll to end, line by line	1 min 27 sec	2 min 2 sec	2 min 25 sec
Justify paragraph of 241 words	1 sec	0·2 sec	34 sec
Change appearance to format and Appearance to Format	17 sec	17 sec	53 sec
Spelling check 3366 words Average speed Disc changes	52 sec 3883 w/m None	6 min 24 sec 526 w/m 8	18 min 46 sec 179 w/m 3
Spelling help 'NECESERY' Spelling check word at cursor	1 sec 0·5 sec	12 sec Not possible	Not possible Not possible
Screen format - columns Page boundaries	40, 80, 128 Shown	40 or 80 Not shown	80 only Shown

Info-Script

Complete Data Processing Package £50

Info-Script includes BrunWord 6128 and BrunSpell. The word processor and database can be resident together, giving the convenience of access to both programmes with no disc delays.

Info-Script is written around the full BrunWord 6128 word processor, enabling many routines to be common. This makes a very compact combination and allows both programmes, 6 pages of text and 1000 addresses to be in the memory at the same time using a standard CPC6128 (or 6128 plus). The great advantage of this is the speed and convenience of no disc delays.

Database Features

*Very fast (e.g. takes 1 second to search 2000 addresses for surname 'Smith', initial 'B'). *Specific field search and/or progressive general search. *Instant sort on any field, alphabetical, numerical, date or reverse order (zero time as the data does not move). *3 sets of user defined headings for each file. *4 markers for instant selection, plus one temporary marker. *Markers can be cleared or inverted and any pair can be added (allows complex searches to be quickly and easily performed). *No setting up of field type or length. *Efficient storage. *Relational records, Parents, Sons and Daughters. *Field to field arithmetic. *Direct data merging into BrunWord. *Easy direct label printing, 1 or 2 across, left of 2 or right of 2. *Single or multi-step.

Data Merging Features

*Simple intelligent system, &N &A &D construct full name, full address and date. *&1 &2 etc specify individual fields. *Insert or fixed format merging. *Automatic justify after merging. *Single step (see before printing) or multi-step. *Stop any time, go to word processor, restart same place. *Merge data from several records for summary, invoice, purchase order etc. *Arithmetic. *Running total. *VAT total. *Conditional loading. *Conditional printing. *Repeat patterns.

100 Letters £15

100 Letters is a utility for use with Info-Script, enabling pre-written letters to be easily selected and personalised. It is supplied with a library of 50 letters but even the most cautious users will be able to write simple letter patterns to expand the library to '100 Letters'. If multi-purpose patterns are used then the upper limit depends only on the skill of the writer. A third type of letter pattern, aimed at solicitors, doctors, school teachers, estate agents etc, consists of up to ten pre-written paragraphs. The user indicates which of the paragraphs are to be used. 40 separate letters can be added using this style.

BrunWord Elite

Elite Word Processor For CPC6128 £55

BrunWord Elite has a unique advantage over its rivals, it can only be used with dot matrix printers. All other word processors are compromised to drive daisy wheel and dot matrix printers.

In the early days of computing a printer was simply a form of electric typewriter. (High quality printing, noisy and very slow). Then came the dot matrix printers, specially designed for computers. (Medium quality printing, not so noisy and much faster). Over the years, the typewriter style has become the daisy wheel printer and although greatly improved, it has been left far behind with the quality, speed and versatility of modern dot matrix printers.

Most word processors, including BrunWord 6128, can use dot matrix and daisy wheel printers. This creates the need for a style of printer control that is acceptable to two very different types of printers.

BrunWord Elite does not have this restriction as it is specifically written to be used only with dot matrix printers. This gives it a unique advantage over other word processors and as a result it is able to provide much more advanced printer control.

This is taken even further, as BrunWord Elite is supplied with an 8 Bit Printer Status Port which allows the programme to continuously monitor the status of the printer, (as well as providing the missing 8th bit for the original CPC6128). This means that BrunWord Elite is able to respond in a more sophisticated way than normally possible. It will wait for ON LINE or <ESC> if the printer is initially OFF or OUT OF PAPER but automatically returns to the editor if the printer is turned OFF.

24 Pin Fonts

Before we designed the fonts for BrunWord Elite, we studied several good magazines and concluded that the bulk of the text was printed in fonts that derive from two basic themes. Our fonts Fineline and Finetype are variations of these two styles, optimised for dot matrix printers. Fineline is supplied in three sizes and Finetype in two sizes. To these we added a display font in computer style type and a straightforward 'Heavy' font. Altogether there are 7 fonts supplied, four are full 24 pin fonts, two are middle size 21 pin fonts and one is a small size 16 pin font.

BrunWord Elite Features

All the features and speed of BrunWord 6128 and BrunSpell, plus:-

*Print in columns *Specify page layout *Use special high quality proportional fonts *Use advanced micro justification with proportional text *Set printer margins independently *Move print head up or down paper, specified in inches from top *Set micro line spacing within text *Print line or box by specifying size and line thickness *Use absolute TABs with proportional text *Download a file directly from disc during printing. *Can be supplied with Info-Script for data merging.

Headline

Headline is a print enhancement utility specially designed for use with low cost 9 pin printers. It enables virtually all the features of BrunWord Elite, including the 24 pin fonts, to be used with any 9 pin Epson compatible printer. The only requirement is that the printer must have quadruple graphics (all well known modern 9 pin printers). Even printers which do not have double height printing will be able to use all the features of Headline, including micro justification, normal, double and eight times height, and 1 to 9 times width

9 Pin Elite £55

BrunWord Elite, BrunSpell, Headline, an 8 bit printer status port and 7 'type setting' fonts (fonts are 24 pin in size but only for 9 pin printers). Total price £55.00 inclusive.

9 Pin Elite+Info £92

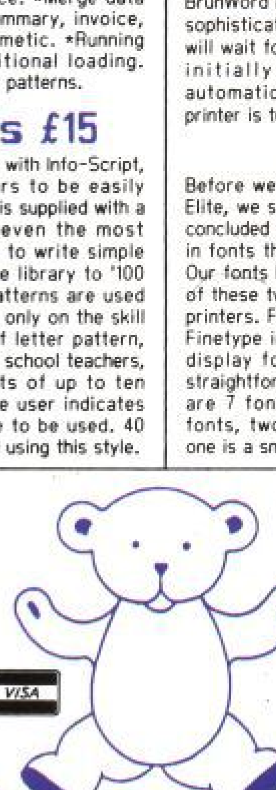
As above but including Info-Script and a backup disc. Total Price £92.00 inclusive.

24 Pin Elite £90

BrunWord Elite, BrunSpell, Info-Script, back up disc, an 8 bit printer status port and 7 'type setting' fonts for downloading to a 24 pin printer. Total price £90.00 inclusive.

Send cheque/PO/Access number/Visa number to:

Brunning Software
138 The Street,
Little Clacton, Essex, CO16 9LS
Telephone (0255) 862308



BrunWord 6128 with BrunSpell & DataFile. . . £30.00
Info-Script with BrunWord 6128 & BrunSpell. . £50.00
9 Pin BrunWord Elite £55.00
9 Pin BrunWord Elite with Info-Script. £92.00
24 Pin BrunWord Elite with Info-Script. £90.00
100 Letters (needs Info-Script). £15.00

Supplied on 3in Disc for CPC6128 or CPC6128 Plus.
You must state which computer.

All prices are inclusive for UK. Overseas orders sent insured air mail - Europe add £2.50 : Rest add £7.50

REGULARS

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THE HEROES ARE BACK

Making the most of some very clever marketing moves, the second Teenage Mutant Ninja Turtles movie arrived on our screens at just the right time to boost Turtlemania to incredible proportions yet again.

Following on from the success of the movie, it looks as if Mirrorsoft's Image Works label is set to grab the Christmas number 1 spot yet again this year, with the release of the coin-op sequel to Teenage Mutant Hero Turtles imminent.

Set in New York, (where else?), your first task in this epic follow-up, is to choose your favourite Hero in a Half-shell to rescue April O'Neil from a burning building. Then it's off to face BeBop and Rocksteady.



Meanwhile, the evil Shredder has kidnapped Splinter, leading the Heroes into a desperate chase to rout the Foot Clan, rescue Splinter and face Shredder in a final showdown at the Technodrome.

Looking to be every bit as good as the original, make sure you keep your eyes peeled to the shelves for when this formidable blast hits the streets in November.

COMPILATION CRAZY

Pin back your shirt sleeves and get set for hours of non-stop blasting as US Gold announce a blistering line up of compilations for release later this year.

First up in a really scorching line up is the Super Sim Pack, which comprises the best sellers International 3D Tennis, Italy 1990, Crazy Cars II and Airborne Ranger. A truly epic combination of sports, driving and airborne action is what it is, followed closely by Super Sega, featuring five of the hottest Coin-op conversions around.

What's on it? E-Swat, Golden Axe, Super Monaco G.P., Shinobi and Crackdown. Be warned, this one really bites.

Next on the list is the truly fabulous sounding Capcom Collection, which is comprised of no less than eight all time Capcom classics for your delectation: Strider, Forgotten World, UN Squadron, Led Storm, Ghouls 'n' Ghosts. They are all there along with much, much more. Miss it and weep.

Last on this formidable list comes MAX, or Maximum Action Xtra. Featuring Turrican II, ST Dragon, Night Shift and Swiv, this one looks set to be an absolute must.

If you think you can handle this much action for Christmas, then you'd better start queueing at the shops now.

Some of them could well be on the shelves by the time you get this issue, so keep a close eye on developments for great gaming.

CLP
COMPUTER SUPPLIES

GREEN TIDINGS

Short on your computer supplies? Then why not try out the new, environmentally friendly CLP catalogue for size?

By totally redesigning the catalogue, CLP has halved the amount of paper used in its production, which still offers an extensive range of supplies, covering virtually everything the average computer user might require, from laser accessories to disc labels.

Many of the products are now at even lower prices than before so, if you want to find out more about this excellent catalogue, get writing now to CLP Ltd., International Information Centre, Wheathills Farm, Brun Lane, Mackworth, Derby DE3 4NE.

You never know, it might just have exactly what you've been hunting for.

NEW PRODUCTS AND PRICES

By the looks of the latest news from Spectravideo, it looks as if the company has caught a touch of the old late summer madness.

The first gem of information is the impending release in the UK of the Gravis Joystick, the most highly acclaimed playing tool in the US.

Featuring a full sized padded handle, 8-position centring tension control and three independent fire buttons, the Gravis does not come cheap, retailing at around £40.

However, as Spectravideo themselves put it, most people buy several joysticks a year, whereas just one play with the Gravis should settle your purchasing urges once and for all.

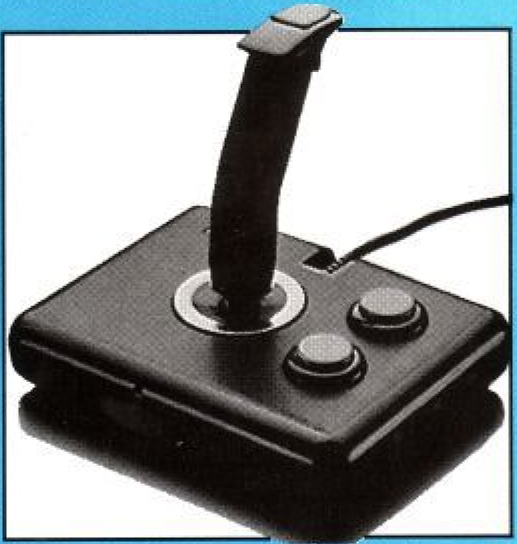
According to Spectravideo: "The Gravis speaks a word and the word is quality. It takes about five seconds to feel its class."

Why not try one out for size at your nearest computer shop and see for yourself.

Moving on, the next piece of joyful news is that Logic 3, marketed by Spectravideo throughout Europe, is dropping the prices on both of its latest best-selling joysticks, the Stingray and the Manta-ray.

Due to recent sales increases, which totally obliterated the forecast figures, these excellent hand-held zappers can now be purchased for just £13.99, instead of the previous price of £15.99.

Both sticks are a joy to use and, whilst we're on the subject, why not check out the latest ACU joystick round-up in next month's issue to see how the newcomers compare with the old favourites? See you there.





STAR LAUNCH

Look out for a new workhorse entering the printer market very soon, as Star Micronics announces the brand new LC-20, the successor to the award winning LC-10.

Aimed at small businesses, home users and education departments alike, this 9-pin dot matrix features eight NLQ fonts, including italics, offering print speeds of 180 cps in draft and 45 cps in NLQ at 12 cpi.

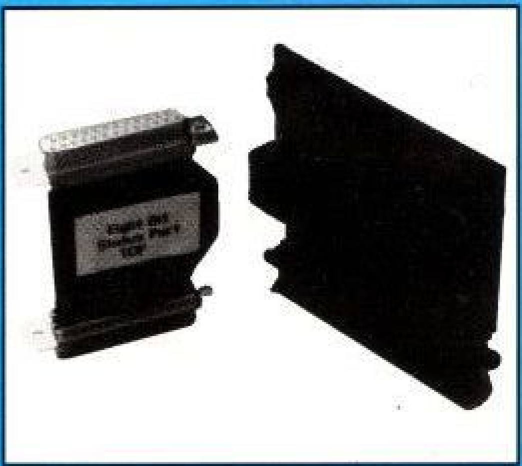
With an in-built 4Kb print buffer, push tractor feed with short form tear off, paper parking, a parallel Centronics interface and both Epson and IBM emulations, the new LC-20 offers the same outstanding price/performance ratio as its predecessors, retailing at an exceptional value for money price of just £199, excluding VAT.

Additional features, such as quiet mode and robust casing, make the LC-20 well worth having a look at for first time buyers.

ROM RELEASE

The best news of the month must be that the BrunWord ROM Module is in the final stages of manufacture and a firm release date is set for the first week of October. You should have already received an update offer if you are a BrunWord owner but, if you've been missed, ring Brunning Software on 0255 862308 now.

Firm orders for the ROM module started to flow in even before the price was fixed, and demand is expected to exceed supply to start with. Peter Brunning says: "Please be patient for the first few months as deliveries could be as long as 4 or 5 weeks". See August ACU for our first impressions of the BrunWord ROM Module and next month's edition for an insight into its secrets. Put your order in soon, or you may not be able to play with this excellent new system before Christmas!



MORE REFERENCING

Following on from the success of Parimgold's Kwikref/X proggie, which we had a look at back in the July issue of ACU, the good news from the Wiltshire based company is that the release of 'Son of Kwikref' may not be too far off.

Already, plans are afoot for further releases of the original for the CPC, not to mention various other formats and, as the orders continue to flow in and demand increases, keep your eyes glued to these pages for the first news of forthcoming releases. In the meantime, or if you haven't tried out Kwikref/X yet, try giving Parimgold a ring on 0666 837215 now for details.

DIARY DATES

Get pen to paper now and start noting down some important dates on your computer calendar. The first is the excellent Computer Shopper Show, scheduled for December 5-8 at the Wembley Exhibition Halls, Wembley Conference Centre, Wembley, London HA9 0DN.

Featuring all of the latest hardware, software and peripherals, tickets are on sale at £6 for adults and £4 for children, with a special family concession for just £18.

Make sure the CSS is in your diary and get down there to pick up some great bargains. Book early to avoid disappointment.



SEIKOSHA DOT MATRIX PRINTERS

Silica Systems are pleased to recommend Seikosha printers at ***NEW LOW PROMOTIONAL PRICES***. The Seikosha range is built to exacting standards, by a company that is used to manufacturing high quality precision products. In fact, you may find that you are already wearing one of these products on your wrist as Seikosha are part of the massive Seiko/Epson group (with a turnover of £6 billion and over 18,000 staff!).

When you buy a Seikosha printer from Silica, we will give you a Silica Printer Starter Kit (worth £25+VAT = £29.38) FREE OF CHARGE, to make sure you get off to a flying start with your new printer. For further information on the Seikosha range, complete and return the coupon below. Or, if you can't wait to get your hands on a new low priced Seikosha printer, telephone our mail order hotline, 081-309 1111 to place your order now.

- ***FREE DELIVERY*** — Next day - anywhere in the UK mainland
- ***FREE STARTER KIT*** — Worth £29.38 with every Seikosha printer.
- ***FREE HELPLINE*** — Technical helpline during office hours.
- ***1 YEAR WARRANTY*** — With every Seikosha printer from Silica.

Printer speeds are quoted as follows:
SD = Superdraft 15cpi, D = Draft 12cpi, NLQ = Near Letter Quality 12cpi, LQ = Letter Quality 12cpi.

9-PIN PRINTER



192 CPS DRAFT **80** COL

- *Seikosha SP-1900AI - 9 pin - 80 col*
- *192cps Draft, 48cps NLQ*
- *1K Printer Buffer + 2 Fonts*
- *Parallel Interface*
- *Graphics Resolution: 144×72dpi*
- *Epson and IBM Emulation*
- *Paper Parking*
- *FREE Printer Starter Kit*

SP-1900AI RRP	£179
STARTER KIT	£25
TOTAL RRP:	£204
Less Silica Saving:	£105
SILICA PRICE (EXC VAT):	£99

£99
+VAT= £116.33 Ref: PRI 8190

9-PIN PRINTERS



192 CPS DRAFT **80** COL

- *Seikosha SP-2000AI - 9 pin - 80 col*
- *192cps Draft, 48cps NLQ*
- *21K Printer Buffer + 2 Fonts*
- *Parallel and Serial Interfaces*
- *Graphics Resolution: 144×72dpi*
- *Epson and IBM Emulation*
- *Optional Auto Sheet Feeder Unit*
- *FREE Silica Printer Starter Kit*

RRP: £199 · STARTER KIT £25 · TOTAL RRP: £224 · SAVING: £95 · SILICA PRICE: £129

£129 +VAT=£151.58 ref: PRI 8200



240 CPS DRAFT **136** COL

- *Seikosha SP-2415AI - 9 pin - 136 col*
- *300cps SD, 240cps Draft, 50cps NLQ*
- *17.5K Printer Buffer + 5 Fonts*
- *Parallel and Serial Interfaces*
- *Graphics Resolution: 240×144dpi*
- *Epson and IBM Emulation*
- *Superior Paper Handling*
- *FREE Silica Printer Starter Kit*

RRP: £320 · STARTER KIT £25 · TOTAL RRP: £345 · SAVING: £136 · SILICA PRICE: £209

£209 +VAT=£245.58 ref: PRI 8215

24-PIN PRINTERS

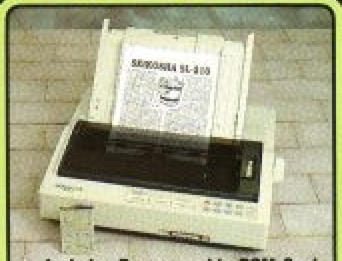


240 CPS DRAFT **80** COL

- *Seikosha SL-92AI - 24 pin - 80 col*
- *240cps Draft, 80cps LQ*
- *44K Printer Buffer + 2 Fonts*
- *Parallel Interface*
- *Graphics Resolution: 360×360dpi*
- *Epson Emulation*
- *Optional Font ROM - 7 Fonts*
- *FREE Silica Printer Starter Kit*

RRP: £335 · STARTER KIT £25 · TOTAL RRP: £360 · SAVING: £171 · SILICA PRICE: £189

£189 +VAT=£222.08 ref: PRI 8292



- *Includes Programmable ROM Card*

324 CPS DRAFT **80** COL

- *Seikosha SL-210AI - 24 pin - 80 col*
- *324cps Draft, 108cps LQ*
- *5K Printer Buffer + 9 Fonts*
- *Parallel and Serial Interfaces*
- *Graphics Resolution: 360×360dpi*
- *Epson and IBM Emulation*
- *Optional Auto Sheet Feeder*
- *FREE Silica Printer Starter Kit*

RRP: £599 · STARTER KIT £25 · TOTAL RRP: £624 · SAVING: £255 · SILICA PRICE: £369

£369 +VAT=£433.58 ref: PRI 8321



- *Handles 1+2 Multipart Forms*
- *Rechargeable Battery Pack Optional*

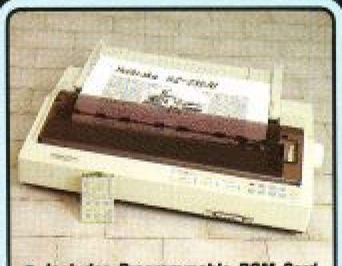
144 CPS DRAFT **80** COL

- *Seikosha LT-20 - 24 pin - 80 col*
- *180cps SD, 144cps Draft, 60cps LQ*
- *1K Printer Buffer + 9 Fonts*
- *Parallel Interface*
- *Graphics Resolution: 360×180dpi*
- *IBM Emulation*
- *Built-in 50 Sheet Auto Feeder*
- *FREE Silica Printer Starter Kit*

RRP: £369 · STARTER KIT £25 · TOTAL RRP: £394 · SAVING: £125 · SILICA PRICE: £269

£269 +VAT=£316.08 ref: PRI 8820

BUSINESS PRINTERS (WIDE-BODY)



- *Includes Programmable ROM Card*

277 CPS DRAFT **136** COL

- *Seikosha SL-230AI - 24 pin - 136 col*
- *277cps Draft, 92cps LQ*
- *5K Printer Buffer + 9 Fonts*
- *Parallel and Serial Interfaces*
- *Graphics Resolution: 360×360dpi*
- *Epson and IBM Emulation*
- *Optional Auto Sheet Feeder*
- *FREE Silica Printer Starter Kit*

RRP: £699 · STARTER KIT £25 · TOTAL RRP: £724 · SAVING: £275 · SILICA PRICE: £449

£449 +VAT=£527.58 ref: PRI 8423



462 CPS DRAFT **136** COL

- *Seikosha BP-5500AI - 8 pin - 136 col*
- *462cps Draft, 106cps NLQ*
- *18K Printer Buffer*
- *Parallel and Serial Interfaces*
- *Graphics Resolution: 240×144dpi*
- *Epson and IBM Emulation*
- *Optional Auto Sheet Feeder*
- *FREE Silica Printer Starter Kit*

RRP: £1299 · STARTER KIT £25 · TOTAL RRP: £1324 · SAVING: £325 · SILICA PRICE: £999

£999 +VAT=£1173.83 ref: PRI 8755



- *Low Form Tear-off*

520 CPS DRAFT **136** COL

- *Seikosha BP-5780AI - 18 pin - 136 col*
- *780cps SD, 520cps Draft, 130cps NLQ*
- *20K Printer Buffer + 2 Fonts*
- *Parallel and Serial Interfaces*
- *Graphics Resolution: 240×240dpi*
- *Epson and IBM Emulation*
- *Handles 1+6 Multipart Forms*
- *FREE Silica Printer Starter Kit*

RRP: £1699 · STARTER KIT £25 · TOTAL RRP: £1724 · SAVING: £325 · SILICA PRICE: £1399

£1399 +VAT=£1643.83 ref: PRI 8780



800 CPS DRAFT **136** COL

- *Seikosha SBP-10AI - 18 pin - 136 col*
- *800cps Draft, 200cps NLQ*
- *64K Printer Buffer + 2 Fonts*
- *Parallel and Serial Interfaces*
- *Graphics Resolution: 240×240dpi*
- *Epson and IBM Emulation*
- *Built-in Cut Sheet Feeder*
- *FREE Silica Printer Starter Kit*

RRP: £2999 · STARTER KIT £25 · TOTAL RRP: £3024 · SAVING: £525 · SILICA PRICE: £2499

£2499 +VAT=£2936.33 ref: PRI 8810

FREE! PRINTER STARTER KIT



Every Seikosha printer from Silica, comes with the Silica Printer Starter Kit, worth £29.38 (£25 +VAT), completely FREE OF CHARGE. It includes all you need to get up and running with your new printer.

- *3½" Disk with Amiga & ST Printer Drivers*
- *1.8 Metre Parallel Printer Cable*
- *200 Sheets of Quality Continuous Paper*
- *100 Continuous Tractor Feed Address Labels*
- *5 Continuous Envelopes on Tractor Feed*

SILICA SYSTEMS OFFER YOU

- ***FREE OVERNIGHT DELIVERY:*** On all hardware orders shipped in the UK mainland.
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ZIGGY'S MAILBOX

This month Ziggy doffs his hat to an Aussi friend, who has a lot to say about Arnold's history down under.

Arnold: an Aussi biography

Greetings to ACU, its staff and readers. I am an ex-patriot Englishman living down under. I am a reader of ACU and would like to make a contribution. There's a trade-off however, as ACU is about the only CPC product I can buy here now, except for a range of software by Satchell, but more about that later.

Perhaps someone, an ACU reader, or even one of the ACU staff, would like to take me under his or her wing and, by way of penpalship, assist me in acquiring, commercially, some software and maybe hardware items. Believe me, the cost incurred in airmailing lighter items and seafreighting heavier ones would be worth it.

My own two boys have now reached an age where I now have to compete with them to gain access to my (secondhand) Arnold 6128 . . . I actually call mine HAL. With only half a dozen or so secondhand games, the boys are after some new bits and bobs, in particular the Ninja Turtle disc for the 6128.

To be honest, I was considering getting rid of my 6128 for something else, except that:

1) My newsagent started to restock ACU, indicating a demand.

2) I like my Arnold.

3) I've been using ProText (I wish I'd brought the ROM now) since 1987 and I've got too many valuable files to want to type them all out again.

I'm going to tell you (you may already know) about a range of software by Satchell, produced here in South Australia. However, first I'd like to outline a little of the history of educational computing in SA.



When I arrived in 1969, there was no such thing as even a calculator. However, one local secondary school, Angle Park, had an old IBM card-fed machine which worked in FORTRAN. I never did get the hang of that behemoth.

Years passed, and the silicon revolution took place and, lo and behold, Molesworth's dreams from *Whizz for Atoms* began to be fulfilled. I became a teacher myself, (well, everyone is entitled to a little madness) and, by 1985, there were Apples, even Macintoshes. The BBC was in common use and so was the C64.

One Friday at 4.00pm, I presented my boss with a blank cheque from the school account and said "sign this, I'm buying the school a computer."

A Commodore 64 was purchased, as it was on special for schools. At the time, it was something like half the price of the BBC, and that one computer created a wave of enthusiasm among children, teachers and parents.

In 1986, I left SA for a year to teach in Colchester (hello to anyone who attended HazlemereJunior School) and upon my return, the school had made a commitment to purchase 12 Amstrad 6128s.

Schools across SA were making purchases depending on their wealth, with the richer schools tending towards Apples or BBCs, and the poorer towards the C64 and Amstrad 6128s. By this time, Angle Park was a specialist computer centre, offering advice, training and writing educational software under the Satchell label. Software was written mainly for the 6128 and the C64, with the Amstrad being the machine endorsed by the Education Dept.

Up until 1987, Amstrad was marketed by AWA in Australia, after which Amstrad took up their own marketing. The PC range was then released and the rumours started in relation to the CPC; production and manufacture was to cease; the machine would no longer be imported; 8-bit machines were dinosaurs.

The truth is that Amstrad wanted to plug its MS DOS machines in Australia and they ended up killing off

the CPC range themselves, despite which the machine is still popular today, being more reliable and faster than most 8-bit machines.

The Angle Park Computing Centre no longer endorses a machine, while the choices available to schools appear to be the Archimedes, Amiga, Atari or Macintosh rangse, and any of a proliferation of MS DOS machines offering VGA screens and a clock speed of not less than 12 mH.

While no machines are particularly endorsed, some machines are actively discouraged. For example, the Amstrad PC range, we are told, has some compatibility problems with some MS DOS software, yet those I know with 1512s or 1640s at home are very pleased with them.

The 6128, however, is still used in dozens of schools. Mine has a total of 15 in the primary and another seven or eight in the junior primary, and this is a disadvantaged school.

The 6128 still is, in my opinion, one of the best educational computers around. One legacy of the 6128 in SA is the range of Satchell software dedicated to educational applications. In most cases, the packages on offer provide something of benefit not available from commercial producers. The software is still available, as long as there is a market.

At a meeting that I attended, teachers discussed a likely replacement for the 6128; the specs we drew up and agreed upon really described exactly the 6128. We were told that, at the least, 16-or-32 bit machines would be favoured and what has emerged, is a following for Amiga on the part of APCC, as Amiga offered many thousands of dollars towards the centre's running and a commitment to MS DOS based environments.

The software put out by Satchell really is of top quality and much of it comes with some great support materials. As usual, I don't have the file at home on which I have listed the products, so I'll have to give a short listing from memory:

Granny's Garden, Dragonworld and Flowers of Crystal: all offerings created by Mike Matson of 4Mation software and recreated under license.

Jara Tava: Isle of Fire: a graphics/text based adventure bringing in elements of Jules Verne, Robinson Crusoe, Blackbeard the Pirate etc.

The Lost World: again text/graphics based adventure, this time centred around the book by Conan Doyle.

Rembase and Omicron: two database creators for classroom use.

Kadimakara: a graphics based database containing facts on dozens of dinosaurs.

Settlement: this is a simulation type game based around the establishment of the early colony of Botany Bay.

Artworks: as its name suggests, a drawing/painting based tool.

Crosswhizz: rather a good crossword generator.

Which Way Words: this is a wordfind creator.

Storypaths: allows the user to create the popular 'Choose your own adventure' genre of story, either to screen or hardcopy.

Wordhunt: creates reading activities with blanked-out words for children, comes with a compendium of extracts from popular books.

Print Machine: creates banners and posters using the inbuilt character sets of the 6128. Also contains a childs' word processor, simple but so good even 11 and 12 year olds favour it. In fact, I even created our official school report card using this.

Softword: a more sophisticated word processor for older children in primary/lower secondary.

Mathbooster and *Mathhopper:* these allow practice of number facts in arcade game type formats, similar to *Space Invaders* and *Frogger*.

Odyssey: not a Satchell product, but a cosmic adventure produced in SA, in which you are taken on a fascinating journey to each planet of the solar system. Combines graphics and text.

Pathweaver: this allows the writing and compilation of text based adventures for children. I use it to create adventures for the children in my school, based upon their own experiences.

Picturebook: a library of graphics, can be overlaid and moved around a backdrop (choice of about 8 scenes) to create a picture. The lower portion of the split screen is available for text and a story can be written as a series of pages.

I know this is not a technical based article, which may benefit your readers, but I hope that it provides an insight into the fortunes of the ever popular CPC 6128 in a far flung corner of the globe.

Certainly I could assist anyone interested in obtaining the Satchell wares (though I'm pretty sure they would be available in the UK). The advantage for schools in relation to the Satchell products is in the granting of site licence for multiple use in schools and in the documentation and reproduceable black line masters accompanying some items of software.

My own interests are in acquiring a mouse for HAL to play with and also some software like AMX Pagemaker (I did have a borrowed copy to play with for a while, but would like to obtain my own original) or Stop Press. Does the new ProType work on the 6128, or only on the 6128 plus (which isn't available here)? What is a 6128 plus and how does it differ from a 6128?

I would also like to acquire some disc based games like *Teenage Mutant Hero Turtles, Space Harrier,* and *Thunder Jaws* and would like to know if you can get external drive? The Amiga/Atari type sounds good as the discs are cheaper.

Michael J. H. Sands, 24 Ironbark Avenue, Craigmore, South Australia, 5114.

PS: My ProText has really been through the mill. The original packaging has disintegrated and been replaced with a hardcase from a video cassette (the flysheet sort of fits inside the plastic cover). The manual is missing its corners as it was eaten, literally, by my youngest son and the disc looks like it's seen service with the SAS. What a great product Arnor!

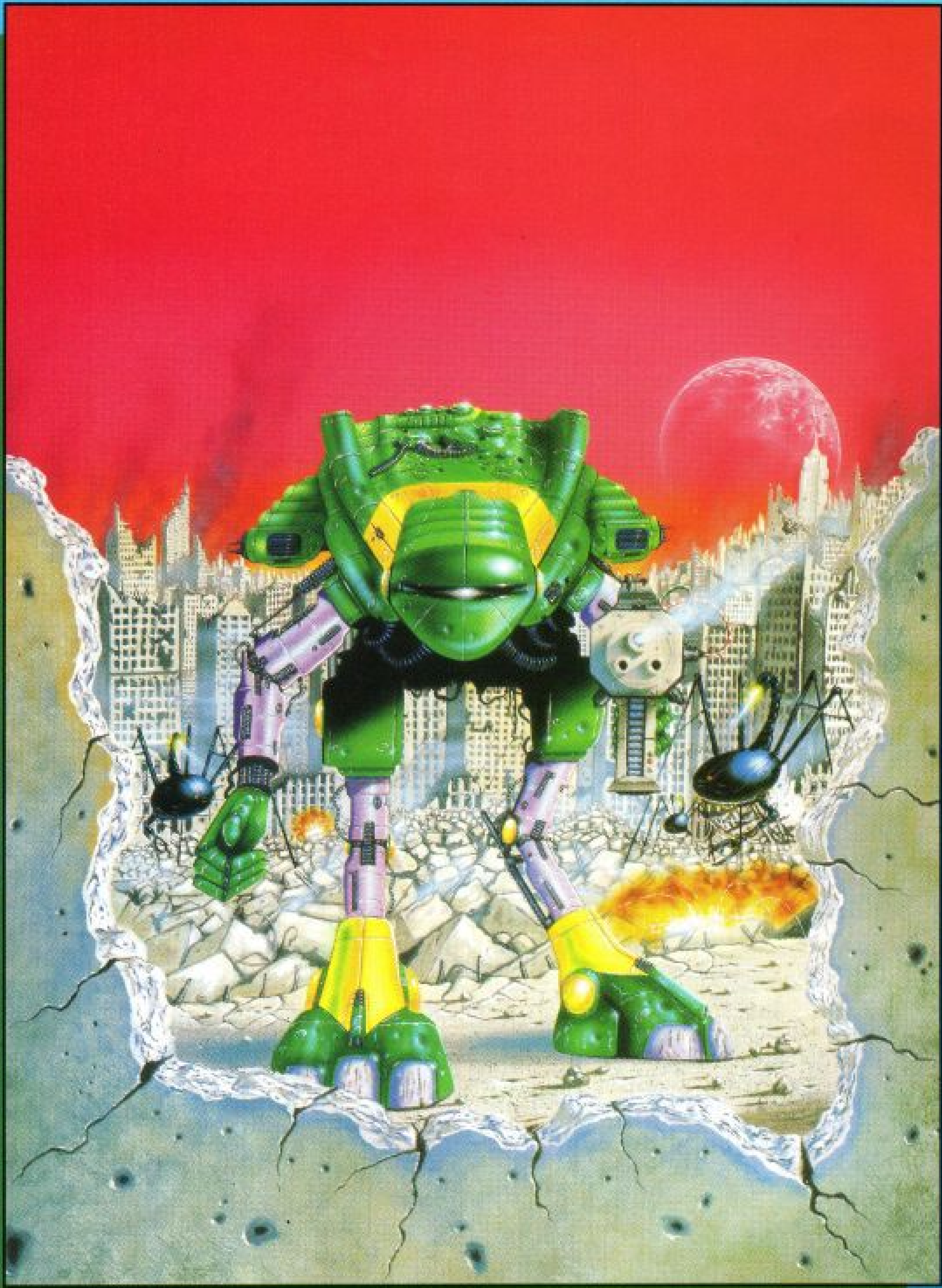
Ziggy: I do hope you will all forgive the little digression from the usual letters format this month, but I'm sure you will all agree that Michael has provided an excellent insight into Arnold's life down under, with plenty of information which should earn him at least a dozen new penpals.

To give a couple of quick answers to your queries, Michael, you can pick up a copy of AMX Pagemaker from SD Microsystems by ringing them on 0406 32252. Talk to Steve Denson, who has a very sympathetic ear and will certainly help you out. Buying a 3.5" disc drive is certainly a very viable option for the 6128, though if you hang on for a couple of months, there should be some very exciting news on that front. More on that point in the forthcoming issues.

As for the differences between the old and new CPCs, I really can't go into that here, with my limited space, but your letter has been passed on to the Doc, who will be in touch with you shortly.

Thanks for letting us read your story and good luck down under.

COMPETITION



Roll up and get your robotic thinking caps on folks, as ACU offers you the chance to win a fantastic Tomy Omnibot, remote controlled robot, courtesy of those generous chappies at MirrorSoft.
Just think what those extra helping hands could do for you around the house! To get hold of this excellent first prize, all you need to do is answer the three simple questions below and hope that yours is the lucky entry pulled out of the bag first.

Don't worry if it isn't, as there are 10 copies of the fabulous RoboZone blast on offer to the runners up. Are you ready? Then get scribbling and good luck, old Omni is waiting for a new master.

1. Who is credited with inventing the first computer? 2. What is the name of the computer in Arthur C. Clarke's "2001-A space oddyssey"?

3. Which cyborg has recently been creating havoc on the big screen in the form of Arnie Schwarzenegger?

Don't forget to state your game format on your entry and send them to the address opposite:

**ACU Roboquiz,
Sunnyside Cottage,
Carluddon, St. Austell,
Cornwall. PL26 8TY.**

The editor's decision is final.

POWER ZOOMER

BY ADRIAN O'NEILL

Type this little beauty in and use your joystick to highlight an area on-screen that you'd like to see close up. Press fire and watch as the chosen area is magnified, then use the cursor keys to pick out specific dots, before changing their colours using "." and ",". Press COPY to plot the dot and Bob's your uncle. Very nifty little proggy, indeed. Use ESC to finish and 664/6128 owners may wish to replace the PEEK(&B1C8) with whatever mode they are currently using to achieve the desired effects.



```
10 x=320:y=200:de=1:x4=1:y4=1:mo=PEEK(&B1C8):eo=2^
mo*20:st=80/eo:DIM va%(80,25):MEMORY &5FFF:FOR n=&
B000 TO &B00B:READ a$:POKE n,VAL("&"+a$):NEXT:CALL
 &B000:POKE &B005,&C0:POKE &B008,&60:GOSUB 40:DATA
 01,00,40,11,00,60,21,00,C0,ED,B0,C9
20 a=JOY(0):IF a=0 THEN 20 ELSE IF a AND 1 THEN GO
SUB 40:y=y+10:GOSUB 40:GOTO 20 ELSE IF a AND 2 THE
N GOSUB 40:y=y-10:GOSUB 40:GOTO 20
30 IF a AND 4 THEN GOSUB 40:x=x-10:GOSUB 40:GOTO 2
0 ELSE IF a AND 8 THEN GOSUB 40:x=x+10:GOSUB 40:GO
TO 20 ELSE IF a>15 THEN 60 ELSE 20
40 x=x MOD 640:y=y MOD 400:IF x<-50 THEN x=640+x E
LSE IF y<-50 THEN y=400+y
50 PRINT CHR$(23)CHR$(1);:q=50-st:MOVE x+2,y+2:DRA
WR 0,q,1:DRAWR 78,0:DRAWR 0,-q:DRAWR -78,0:RETURN
60 GOSUB 50:PRINT CHR$(7);:FOR x2=st TO 80 STEP st
:FOR y2=2 TO 50 STEP 2:va%(x2\st,y2\2)=TEST(x+x2,y
+y2):NEXT y2,x2:CLS:FOR x3=1 TO eo:FOR y3=1 TO 25:
PEN va%(x3,y3):LOCATE x3,26-y3:PRINT CHR$(233);:NE
XT y3,x3
70 LOCATE x4,y4:PEN de:PRINT CHR$(143);:b$="":WHIL
E b$="":b$=INKEY$:WEND:IF b$=CHR$(240) AND y4>1 TH
EN GOSUB 100:y4=y4-1:GOTO 70 ELSE IF b$=CHR$(241)
AND y4<25 THEN GOSUB 100:y4=y4+1:GOTO 70 ELSE IF b
$=CHR$(242) AND x4>1 THEN GOSUB 100:x4=x4-1:GOTO 7
0
80 IF b$=CHR$(243) AND x4<eo THEN GOSUB 100:x4=x4+
1:GOTO 70 ELSE IF b$=CHR$(224) THEN va%(x4,26-y4)=
de:GOTO 70 ELSE IF b$="," AND de>0 THEN de=de-1:GO
TO 70 ELSE IF b$="." AND de<15 THEN de=de+1:GOTO 7
0 ELSE IF b$=CHR$(13) THEN 90 ELSE 70
90 CLS:CALL &B000:PRINT CHR$(23)CHR$(0):FOR x5=st
TO 80 STEP st:FOR y5=2 TO 50 STEP 2:PLOT x+x5,y+y5
,va%(x5\st,y5\2):NEXT y5,x5:END
100 LOCATE x4,y4:PEN va%(x4,26-y4):PRINT CHR$(233)
;:RETURN
```

UNDERLINER

BY ADRIAN O'NEILL

Using a clever GOSUB, SYMBOL AFTER routine, this gem will underline certain sections of text to help you get your point across. GOSUB 60 turns the underliner on, while a SYMBOL AFTER command turns it off again. A demo is included, so read the proggie and get working.

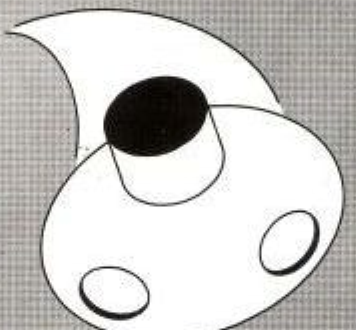


```
10 ' DEMO
20 MODE 1:PEN 1:LOCATE 12,5
30 PRINT"I ";:GOSUB 60:PRINT"must";
40 SYMBOL AFTER 256:PRINT" insist...":PEN 3:LOCATE
 9,11
50 PRINT"You buy the Fab ACU!!!":PEN 1:END
60 IF PEEK(&B000)=6 THEN 80
70 FOR n=&B000 TO &B00C:READ a$:POKE n,VAL("&"+a$)
:NEXT
80 SYMBOL AFTER 0:CALL &B000,HIMEM+8
90 RETURN
100 DATA 06,FF,EB,11,08,00,3E,FF,19,77,10,FC,C9
```

MINI-MARS WARS

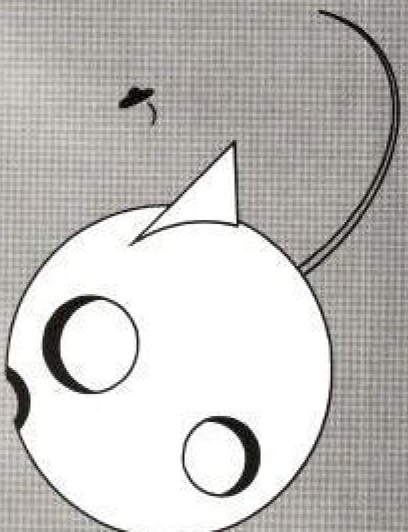
BY ADRIAN O'NEILL

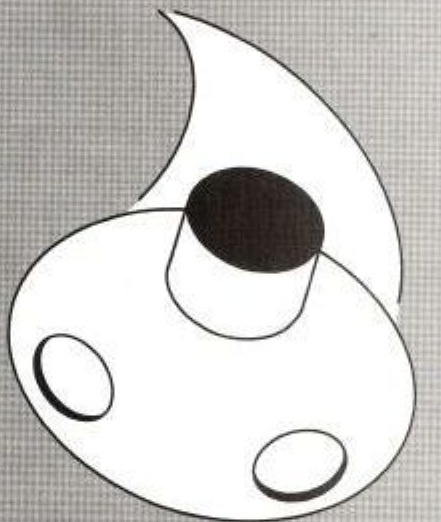
On a slightly lighter note you, as Look Dogwalker, must take on the invading Martian spaceships in this nifty little shootie. Use the joystick to chase them round the screen and hit them three times to destroy them. Remember, you're up against the clock, so be quick and, if you get too hot for the opposition, simply change the difficulty level in line 1 to meet more of a match.



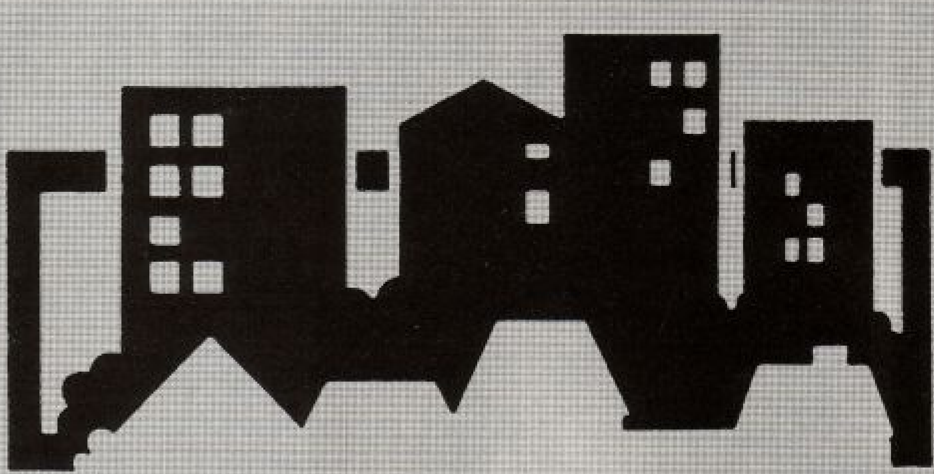


```
1 difflevel=700:' The Higher The Difficulty level,
 The Easier the Game.
5 REM Mini Mars-Wars - Adrian O'Neill
10 CALL &BC02:MODE 0:INK 7,1:INK 14,16,11:CLG 7:CL
S:x=320:y=200:sh=0:DEF FNt=TEST(x,y):SYMBOL AFTER
253:SYMBOL 254,63,127,224,127,63,31,4,10:SYMBOL 25
5,252,254,7,254,252,248,32,80:FOR n=1 TO 200:z=RND
*640:b=RND*400:PLOT z,b,1:NEXT n
20 x2=INT(RND*576):y2=INT(RND*384)+16:GOSUB 70:GOS
UB 90:AFTER difflevel GOSUB 80:EVERY difflevel/10,
2 GOSUB 100
30 EI:WHILE a=0:a=JOY(0):WEND:DI:IF a AND 1 AND y<
396 THEN GOSUB 90:y=y+8:GOSUB 90 ELSE IF a AND 2 A
ND y>0 THEN GOSUB 90:y=y-8:GOSUB 90
40 IF a AND 4 AND x>0 THEN GOSUB 90:x=x-8:GOSUB 90
 ELSE IF a AND 8 AND x<640 THEN GOSUB 90:x=x+8:GOS
UB 90
50 IF a<16 THEN a=0:GOTO 30 ELSE DI:MOVE 0,0:DRAW
x,y,3:DRAW 640,0:SOUND 1,25,5:DRAW x,y:DRAW 0,0:EI
:IF FNt>1 THEN 60 ELSE a=0:GOTO 30
60 DI:sc=sc+1:sh=sh+1:FOR n=200 TO 50 STEP -50:SOU
ND 2,n,3:NEXT n:IF sh<>3 THEN a=0:GOTO 30 ELSE dif
flevel=difflevel-20:a=0:r=REMAIN(0):r=REMAIN(2):GO
TO 10
70 DI:PRINT CHR$(23)CHR$(1);:TAG:PLOT x2,y2,15:PRI
NT CHR$(254)CHR$(255);:TAGOFF:EI:RETURN
80 LOCATE 5,10:PEN 9:PRINT "Game Over !":FOR n=0 T
O 1000 STEP 50:SOUND 1,n,5:NEXT n:LOCATE 6,12:PEN
4:PRINT "Score:";sc:FOR o=1 TO 2000:NEXT o:RUN
90 DI:PRINT CHR$(23)CHR$(1);:MOVE x+4,y:DRAWR 4,0,
10:MOVER -12,0:DRAWR -4,0:MOVER 8,4:DRAWR 0,4:MOVE
R 0,-12:DRAWR 0,-4:EI:RETURN
100 DI:GOSUB 70:x3=INT(RND*100)-50:y3=INT(RND*100)
-50:x2=x2+x3:y2=y2+y3:GOSUB 70:IF x2<0 OR x2>576 O
R y2<16 OR y2>400 THEN GOSUB 70:x2=x2-x3:y2=y2-y3:
GOSUB 70:GOTO 100 ELSE EI:RETURN
```





SKYLINE



By Geoff Short

Geoff's next little entry will beautifully construct a high-rise city by moonlight, set against the starry reflections of the nearby river. It may take a little while to cement, but it is well worth the wait as an excellent graphics demo.

```
10 '  ---===    City  Skyline    ===---  [F1]
      --==  by Geoff Short 1991  ==-- [F1]
20 '                                     [F2]
        -*- New York -*- London -*- [F2]
30 '         -*- Guisborough -*-         [F3]
    [F3]
40 RANDOMIZE TIME:DEFINT a-z:MODE 1:BORDER 3:INK 0,1:INK 1,0:INK 2,12:INK 3,25:P
APER 0:CLS:FOR f=0 TO 50:PLOT RND*640,RND*270+128,2,0:NEXT:WINDOW 1,40,17,25:PAP
ER 1:CLS:PAPER 0:PEN 1 [94]
50 FOR build=1 TO 12:GOSUB 100:FOR g=RND*3 TO hi-8 STEP 4:MOVE 0,g,2:FOR f=3 TO
wid-4 STEP 2:IF RND>0.5 THEN PLOTR 2,0 ELSE MOVER 2,0 [AB]
60 NEXT f,g,build:FOR build=1 TO 24:GOSUB 100:FOR g=RND*3 TO hi-8 STEP 4:FOR f=3
 TO wid-4 STEP 2:IF RND>0.5 THEN PLOT f,g,3:IF RND>0.5 THEN PLOT f,g/-2,2 [64]
70 NEXT f,g,build [9A]
80 ORIGIN 0,0,0,640,0,400:FOR e=0 TO 1:FOR f=1 TO 120:PLOT RND*640,f,e:FOR g=0 T
O 2*(RND*20):PLOTR 4,0:NEXT g,f,e:PLOT 0,132,1:DRAWR 640,0:PLOT 0,130:DRAWR 640,
0 [08]
90 PRINT CHR$(7);:WHILE INKEY$="":WEND:SAVE"!skyline",b,&C000,&4000:END [52]
100 hi=4*(RND*50+6):wid=8*(RND*10+3):x=8*RND*((640-wid)/8):ORIGIN x,128,x,x+wid,
128-hi/2,128+hi:CLG 1:RETURN [23]
```

PRINTER FILTER

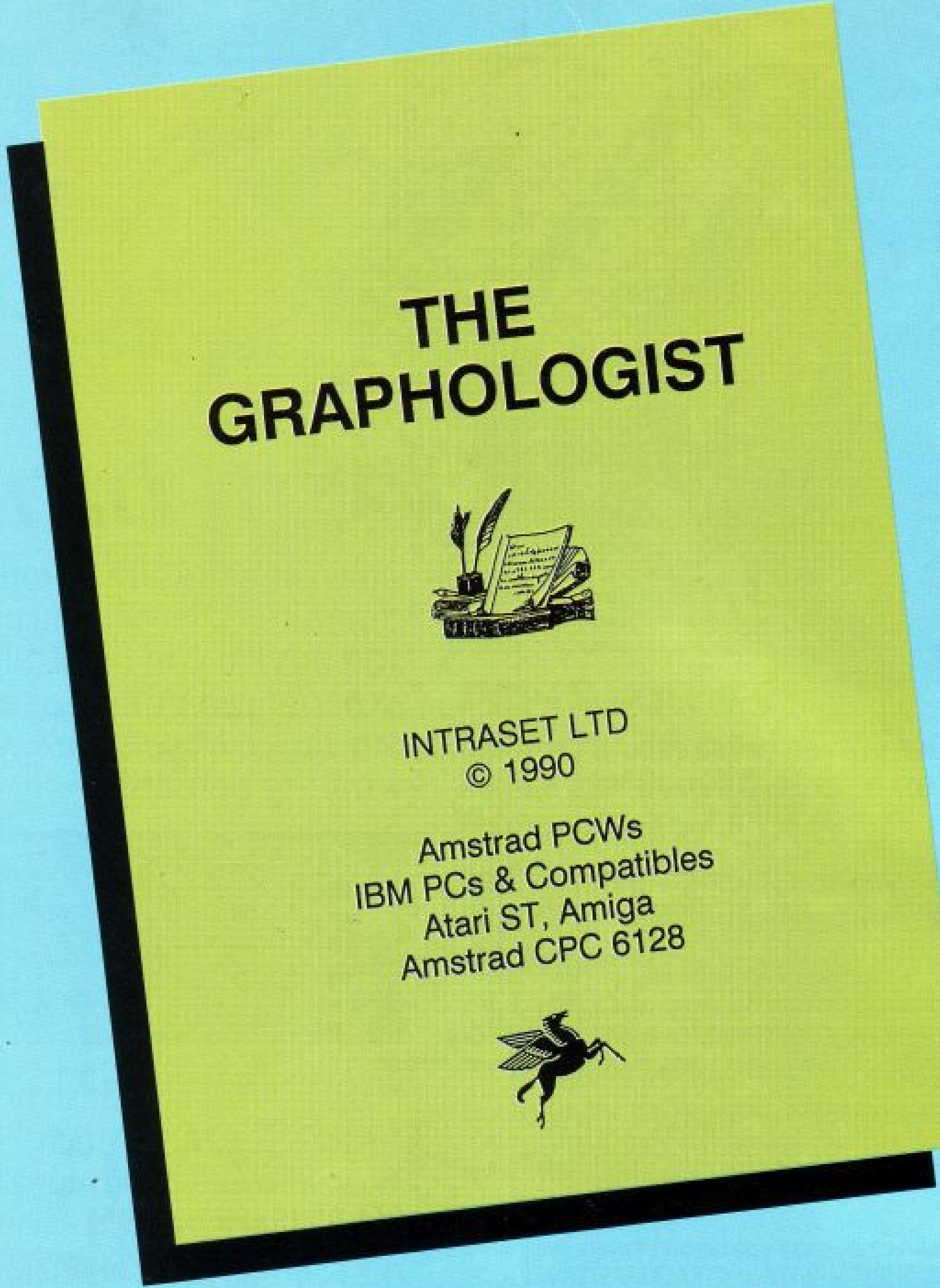
BY GEOFF SHORT

This exceptionally clever utility from Geoff enables you to print any Ascii file to printer, with all characters reproduced correctly, including the £ and symbols. Control codes 1-31 and graphics codes 128-255 are also printed. This listing was produced by itself as an example, though Geoffrey's added the proof codes afterwards. Try it for yourself, it works a treat.

```
G.S. LIST#8 Plus   -   LIST#8+

1 '
2 ' GEOFF's PRINTER FILTER
3 '
4 '       ©  6-91
5 '
10 hi=HIMEM:MEMORY &A3FF:FOR ad=&A400 TO &A425:READ a$:POKE ad,VAL("&"+a$):NEXT:
FOR ad=0 TO 2:POKE &A426+ad,PEEK(&BC80+ad):NEXT:POKE &BC80,&C3:POKE &BC81,0:POKE
 &BC82,&A4 (EC)
20 e$=CHR$(27):DEF FNt=TESTR(0,2):MODE 2:PEN 1:PAPER 0:CLS:PRINT" -* LIST #8 PLU
S *-   G. Short 1991":WINDOW#1,1,80,25,25:PAPER#1,0:PEN#1,1:WINDOW 1,80,2,24:INP
UT"Ascii Filename : ",f$:f$=UPPER$(f$):OPENIN f$ (9D)
30 WIDTH 255:PRINT#8,e$"R"CHR$(0)"G.S. LIST#8 Plus  -  "f$;CHR$(10)(A3)
40 WHILE NOT EOF:LINE INPUT#9,a$ (8D)
50 FOR f=1 TO LEN(a$):b$=MID$(a$,f,1):IF b$>=" " AND b$<="}" THEN PRINT#8,b$;:GO
TO 80 ELSE IF b$="£" THEN PRINT#8,e$"R"CHR$(3)"#"e$"R"CHR$(0);:GOTO 80 (F0)
60 PRINT#1,CHR$(1)b$:PRINT#8,e$"*"CHR$(4)CHR$(8)CHR$(0);:d=0:FOR g=0 TO 7:c=TEST
(g,0)+2*FNt+4*FNt+8*FNt+16*FNt+32*FNt+64*FNt:d=d+FNt:PRINT#8,CHR$(c);:NEXT (1E)
70 IF d>0 THEN PRINT#8,CHR$(8)e$"j"CHR$(3)e$"*"CHR$(4)CHR$(8)CHR$(0);:FOR g=0 TO
 7:PRINT#8,CHR$(64*TEST(g,14));:NEXT:PRINT#8,e$"J"CHR$(3); (77)
80 PRINT CHR$(1)b$;:NEXT:PRINT:PRINT#8:WEND (8A)
90 CLOSEIN:PRINT#8,"End of "f$::FOR ad=0 TO 2:POKE &BC80+ad,PEEK(&A426+ad):NEXT:
MEMORY hi:END (89)
100 DATA e5,2a,26,a4,22,80,bc,3a,28,a4,32,82,bc,cd,80,bc,21,00,a4,22,81,bc,21,80
,bc,36,c3,e1,d8,c8,fe,1a,37,3f,c0,b7,37,c9 (0A)
End of LIST#8+
```

THE WRITE STUFF



Vic Barnes takes a look at a no-holds-barred program which may reveal a little more than you expected.

I'm a Leo, fiercely independent, strong and loyal and a born leader. I am also extrovert, emotional, sensitive and creative. And if that isn't enough add lazy, intolerant, extravagant, untidy and lackadaisical. *Who says so?* My personal astrologer (actually, a girl I know who dabbles in such things) says so.

If you read horoscopes regularly - and more important - if you believe them, you will be more than a little interested in the business of character assessment. There are scores of techniques for doing this ranging from feeling the bumps on your head to reading the verrucas on your feet! I'm not sure what merit these methods have, but I do know one of the longest established and most accurate of these 'sciences' is graphology - the analysis of handwriting.

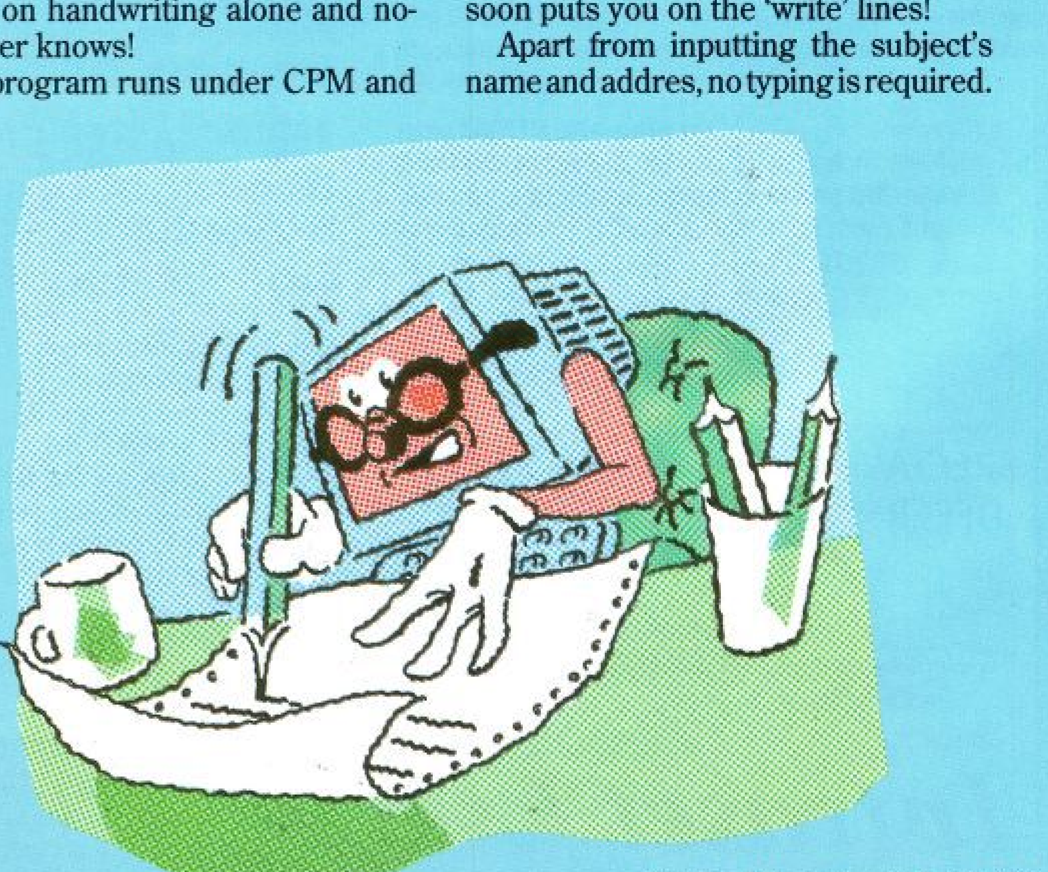
Tucked-away in the middle of their advert, the Chorley, Lancashire software house, *Intraset* give details of a program that will turn any CPC owner into an instant 'trick-cyclist'. All you need is fifty quid (yes, £50!) and enough curiosity to part with it! When the pain in your wallet has subsided you will be left with an imaginatively titled acquisition, *GRAPHOLOGY* and its companion hardback book, *A Manual of Graphology* by Eric Singer.

Graphology is no gimmick. It is a precise and serious science and is used by police to assemble evidence in forgery and fraud cases. Handwriting can never be completely disguised because certain of the writer's natural characteristics will always be apparent to an experienced graphologist. A number of large companies also employ a graphologist to analyse job applicants' handwriting before carrying out final interviews. Many a job has been lost, or gained, on handwriting alone and nobody ever knows!

The program runs under CPM and accesses and writes to side 2 of the disc rather a lot. You will need back-up copies, of both sides of the program disc, plus a further working copy (or two) of side 2.

You don't need previous knowledge of the subject to immediately run the program and achieve accurate results. There are only a few jargon words which might present initial problems, but quick recourse to Eric Singer's book soon puts you on the 'write' lines!

Apart from inputting the subject's name and addres, no typing is required.



The program does everything for you and is based around multiple-choice menus. Each time you identify a characteristic - from the writing under analysis - you simply highlight a matching item on the menu and the program writes to disc. As you work through the items on each menu a file is gradually built up. You can view individual characteristics (at any time) by pressing one key <P> before deciding to 'write' to disc <return>.

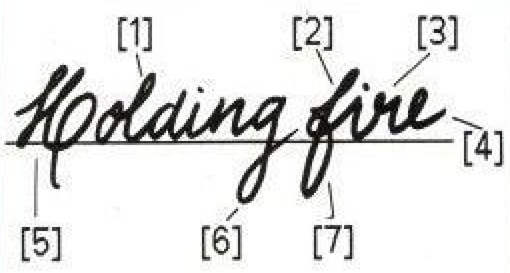
After methodically working through each of the menus, side 2 of the disc will contain an ASCII file. You now have the option to print the results. If you decide to do this your printer will churn out a reasonably composed document. A better idea is to import the file to a word processor by using its ASCII 'load' option (on *Brunword* this is ESC <A>). What you will see on screen is a file of text with a carriage return at the end of each line. These have to be removed to enable you to edit the text into a more easily digested form and also eliminate the unavoidable repetition of phrases like *'the writer'* and *'the sample suggests'*.

If you do the job accurately and thoroughly, it will take about an hour-and-a-half to analyse an A4 sheet of handwriting. (Editing the file on a wp obviously takes time too.) The main menu contains 17 items which are the major areas of assessment. Most of these have sub-menus for more precise identification. And even some of the sub-menus have sub-menus! It isn't as confusing as it sounds, but does mean you can be very sure of the characteristic you are trying to identify.

To give you some idea of the scope of the program, the main menu delves into, *Detailed personality traits, Handwriting and emotions, Handwriting and health, Characteristics of criminal types* and *Sexual attitudes and behaviour* (really!). It also takes into account size, line slope, movement and flow, line and word spacing, margins, slant, pressure and the three zones of writing (which has a 14 item sub-menu). There is a separate analysis section for signatures only.

The 'holding fire' illustration is a good example of how effective the program's analysis is. The numbered characteristics reveal the following traits about the writer:

(1) Demonstrative and capable of open affection.
(2) Under pressure with an anxiety about the future.
(3) A bit of a day-dreamer.
(4) Cheerful, optimistic, excitable and a fighter.
(5) Vulgar and lacking in taste.



[1] Normal upper loop
[2] Loop bends forward
[3] Looped at top
[4] Rising base line
[5] Elaborate flourish
[6] Descender turns right
[7] Knotted, facing right

(6) Gives physically at the expense of self-gratification.
(7) Experiences periodic self-pity and little physical pleasure. Sexually disappointed.

I can assure you that the above is frighteningly accurate. I wrote it and it's based on a writing style I affected during my early 20s! At that time I *was* something of a prat, but I hasten to add my writing is nothing like it today!

Naturally, I did about six analyses of various friends' handwriting before I wrote this. Without exception, all admitted the final results were more than 90% accurate. There were traits and characteristics revealed about my own personality that only I know about and I'm certainly not telling you! However, it did give me an idea. Perhaps I could persuade the hard, overworked scribes on ACU to send me samples of their own fair and flowing script - including the Editor!

Now, as a special service to our readers, here are some of the things you never knew you didn't know and were too frightened to ask! Is The Dungeon Master warm and fluffy? Does Jim Johnson have the fastest fingers in the business? Is the Editor really the ogre everyone says he is? And is Vic Barnes a middle-aged hooligan? Read on....

The Dungeon Master: warm and fluffy (sorry, I'll start again). The DM is '. . . generally cheerful, enthusiastic and optimistic, but likely to be excitable. He has a capacity for getting things done because he sees the sequence and logical order in which to do them . . . a bit of an exhibitionist he has a need for attention.' (As if you had't already guessed!)

Jim Johnson is '. . . enthusiastic and exuberant, has very high goals and is a bit of a dreamer. He has a strongly casual, general attitude to life with an over-emphasis on physical expression . . . he is self-confident, talkative, tolerant, imaginative and egotistical.' Wow, Jim, how on earth do you manage to fit in games reviewing?

Now, this is where I have to ve very careful. The Editor '. . . is skilled in the use of words, speaks fluently with an above-average vocabulary. He has an excellent understanding of written material and remembers most of what he reads. His energy level is comparaticely high and the need for a pleasant and colourful environment is fairly important.' Just in case you were trying to work out the last bit, Mr Perfect lives in Cornwall!

All I am prepared to reveal about myself is - according to the program - I am '. . . self-reliant with a strong sense of self-esteem and with a confidence that is often surplus to requirements . . . talkative, enterprising, gullible, fussy and a show-off.' (And those are just the good points!)

But there is more! I had an idea. I remember Peter Brunning (of Brunning Software) telling me that *Clacton*, one of his fonts, was based on his own handwriting. Yes, I realise he edited it and removed all traces of his personal writing characteristics, but I wondered if *Graphology* would detect the soullessness of the computerised script. Judge for yourselves with this extract from the print-out: '. . . has a feeling of grandeur and a desire to be recognised as important . . . appears to be in a kind of vacuum, devoid of spiritual and sexual instincts.' (I think that's pretty good, don't you?)

Obviously, the above is just a bit of fun and although the program *did* detail those characteristics they are only a minute percentage of the complete analyses. The actual assessments run to a few pages and are much more 'in-depth' than those outlined.

As to whether the program is worth £50 or not, I'm not sure. *Anything* is worth what you pay for it - if it is what you want. With *Graphology* you certainly get a great deal of research and work for your money. You also get a serious program which will accurately analyse handwriting with the minimum of effort on the user's part. It's a great 'party piece', but when used correctly might just upset the wrong person, because it 'pulls no punches'.

Graphology will leave your soul bare and bleeding.

AMSTRAD COMPUTER USER

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THE MAGAZINE FOR THE AMSTRAD 464 6128 & GX4000 CONSOLE

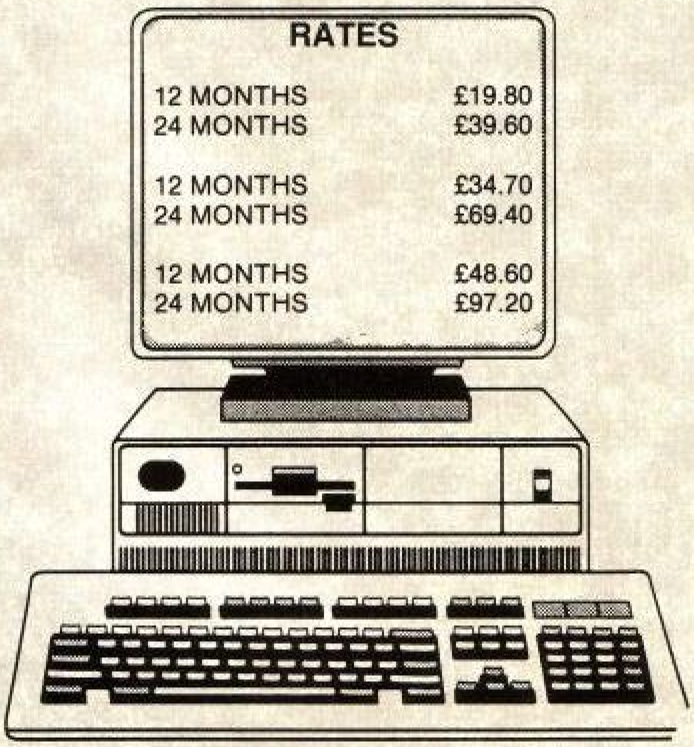
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THE TECHIE BIT

Get yourself registered as Doctor Watson sets about controlling his Cathode rays.

In need of stretching the old grey matter? – and I don't just mean deciding what to enter in your latest game's hi-score table. Well, you've certainly come to the right place. As ever, these two pages are designed to provide information for anyone interested in machine code programming, irrespective of ability. Hardware projects are also covered, plus anything else of a vaguely technical nature.

Letters, suggestions, enquiries, solutions, hints, tips... (need I go on) are definitely welcome and should be sent to the usual address, clearly marked 'Techie Bit' or words to that effect.

If you're interested in machine code programming then sooner or later, you're bound to want to manipulate the screen in some way. Fortunately, there is a dedicated chip inside every CPC which can be utilised to give some pretty impressive effects – notably smooth(ish) scrolling.

The chip in question is the 6845 Cathode Ray Tube Controller, or CRTC for short, and has 12 registers which each hold a byte. Communication takes place via two ports at &BC00 and &BD00. Simply OUT a register number to port &BC00, and OUT the value you want that register to have to port &BD00.

Here is a breakdown of what each register does:

Register 0 determines the length of the screen, and subsequently the timing of frame flyback interrupts. The longer the screen the slower the interrupts.

Register 1 controls the width of the screen in units of 1/40ths.

Register 2 affects the horizontal positioning of the screen.

Register 3 determines the horizontal sync.

Register 4 determines the vertical sync.

Register 5 fine tunes the vertical positioning using numbers 1-10.

Register 6 controls the height of the screen in units of 1/15ths.

Register 7 affects the vertical positioning of the screen.

Register 8 is the interlace register. Sending 255 doubles the number of vertical lines available. Sending a 1 will cause the screen to shake.

Register 12 can be used to set the start of screen memory to &4000, &8000 or &c000.

Finding the necessary values for each register, needed to achieve your desired effect, is largely a matter of experimentation. To get you started, try running the BASIC programs below:

```
10 OUT &BC00,1
20 FOR n=1 to 40
30 FOR delay=1 to 60:NEXT
40 OUT &BD00,n
50 NEXT n
```

```
10 MODE 1: BORDER 0
20 X1=46: y1=31
30 LOCATE 15, 10: PRINT "HELLO
WORLD!"
35 GOTO 90
40 IF INKEY(0)>-1 AND Y<36 THEN
Y1=Y+1
50 IF INKEY(2)>-1 AND Y<2 THEN
Y1=Y-1
60 IF INKEY(8)>-1 AND X<49 THEN
X1=X+1
70 IF INKEY(1)>-1 ANS X.14 THEN
X1=X-1
80 IF X1=X AND Y1=Y THEN GOTO
40
90 OUT &BC00, 2: OUT &BD00, X1
100 OUT &BC00, 7:OUT &BD00, Y1
110 X=X1:Y=Y1
120 GOTO 40
```

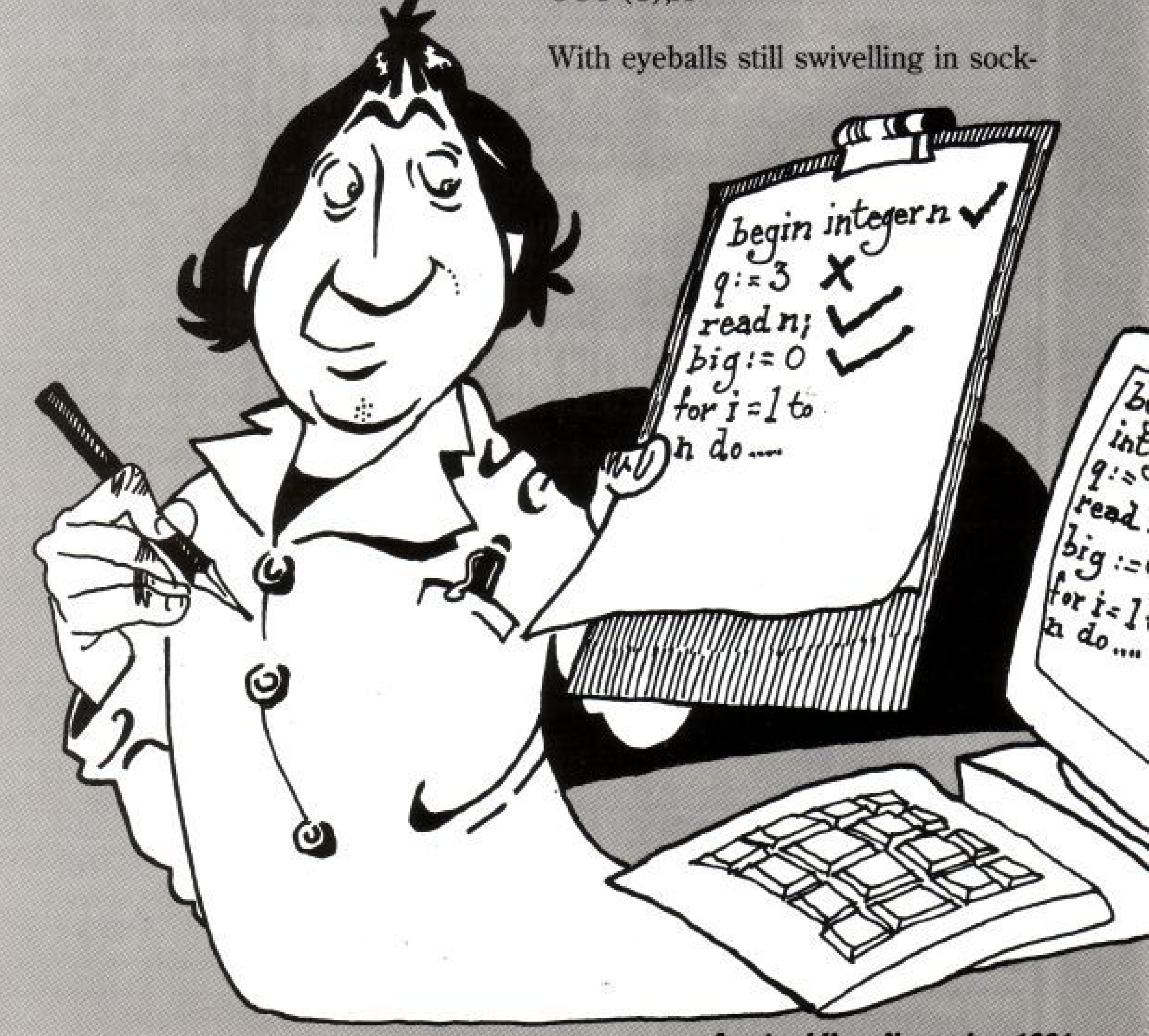
The first program creates a nifty scrolling effect which you may wish to use in your own games. Make sure you have plenty of text on the screen when you run it for the first time, so you can see what it does.

Program two demonstrates how the CRTC can produce quite impressive hardware scrolling. Admittedly, my example is rather jerky, but it is possible to improve smoothness by scrolling in smaller increments – particularly horizontally. This is something that could be covered in future issues. For the moment, run the program and use the cursor keys to scroll the screen in all directions.

Converting the programs into assembly language shouldn't be too difficult. The process for issung OUT commands in machine code is as follows:

```
LD BC,&BC00  ; port address
LD A,1       ; value to be sent
OUT (C),A
```

With eyeballs still swivelling in sock-



ets, we progress to a letter from Geoff Short of Cleveland:

"I have read the September issue of ACU with interest and look forward to the Machine code articles. I would like to suggest an electronics project – how about a flat-bed plotter? I know absolutely nothing about such things, but I would imagine that all that is needed is two stepper motors and some kind of solenoid for pen up/down. I could be way off the mark but it is something I would love to own."

Well Geoff, you seem to have worked it out for yourself! Two stepper motors and a solenoid is pretty much it, and if you followed the two articles on interfacing, you're even closer. Circuits 12 & 16 on page 64 of the August issue are of particular relevance.

With the electronics working, the remaining problems are design issues. An easy solution is to construct a simple buggy with the two motors diametrically opposite, and the pen in the middle. This could then trundle around over the paper, cat, rug, and anything else in its path! A more elegant solution wold be an X-Y plotter, as you yourself suggest, but obviously the mechanics are a little more complex. For specific practical help with this last option, have a look at page 158 of 'The Robot Book' by Richard Pawson ISBn 0-7112-09414-4 price £7.95. I'd be delighted to hear how you get on.

If other readers would like to see specific plans given in ACU for buggy/plotter circuitry, then write in and let me know. That seems to be about all we have room for this month, so I'll leave you to get on with interfacing your sandwich toaster, or whatever else techie types do in their spare time. See ya!

Hex Education (machine code tutorial part 3)



Last month we looked at alternative number bases, in particular binary, and saw how conversion to/from base 10 takes place. If you've been experimenting with binary you might have discovered why a byte can only hold numbers between 0 and 255. A byte consists of 8 bits (a bit is a binary digit) and so the largest number is going to be 11111111 and the smallest 00000000. When converted to base 10 these become 128+64+32+16+8+4+2+1=255, and 0.

It has to be said that binary is not the most friendly of number bases and can be pretty long-winded when dealing with large values. Because of this, m/c programmers tend to use base 16, called hexadecimal or hex to its friends. Hexadecimal is closely allied to binary with conversion between the two being particularly easy. At the same time, large numbers such as memory addresses are only four characters long, and single bytes only two.

Hexadecimal is obviously going to need sixteen different digits. The number 0-9 account for the first ten with the letters A, B, C, D, E, F forming the next five. 'A' has the value ten, 'B' eleven, 'C' twelve, 'D' thirteen, 'E' fourteen, and 'F' fifteen. As a shorthand, hex numbers are preceded by the '&' symbol, and binary numbers by '&X'.

Conversion to/from hex occurs just as before with each column corresponding to powers of 16 e.g. 256,16,1. Therefore &10 is 1x16 + 0x1 = 16, &FF is 15x16+15x1=255, &2EC=2x256+14x16 +12x1 = 748.

As with binary there are BASIC commands to automate this procedure:

Base 10 to Hex: PRINT HEX$(123)

Hex to Base10: PRINT &7B

Don't worry if you can't yet see the point of employing different number bases – it's something that will become clearer once you begin some actual machine code programming.

Now that we've learned how to express numbers in a variety of ways, it might be an idea to see just what they all mean. As mentioned in the first instalment of this tutorial, the Z80 CPU can perform around 300+ simple instructions, each one represented by a single byte or in some cases two bytes. Bytes such as these that represent machine code instructions are known as 'opcodes'. Many opcodes also need to be followed by one or two 'data' bytes, depending on how many parameters the instruction in question has. Confused? Consider the 'MODE n' instruction in BASIC. 'MODE' is the instruction, and 'n' is the parameter or piece of data needed by the instruction. 'INK a,b', on the other hand, has two parameters which follow the instruction.

There is no way the Z80 knows whether a byte is an opcode or a piece of data – they're both simply numbers. What actually happens is that the first byte the Z80 encounters is automatically treated as an opcode. Now the microprocessor can work out which instruction it is dealing with, and how many subsequent bytes (if any) should be treated as parameters. When the instruction has been executed the Z80 will know where the next opcode lies.

Consider the following list of hexadecimal numbers:

(&3E) &07 (&CD) &5A &BB (&C9)

This list constitutes a very simple machine code program to print chr$(7) to the screen, thus sounding a beep. To make it slightly easier to understand I have put the opcodes in brackets, the remaining numbers are data bytes.

When executed, the Z80 looks at the first number – &3E – and decides what instruction this corresponds to. It so happens that &3E instructs the microprocessor to place the value of the next byte into the 'A' register, rather like a variable. In this case the next byte is 7. With this instruction completed the next byte is again treated as an opcode. &CD means 'execute the routine at an address given by the following TWO bytes', rather like a GOSUB command in BASIC. The next two bytes, &5A and &BB, point to a routine held in the Amstrad's ROM which prints a character on the screen corresponding to the contents of the 'A' register. The final opcode, &C9, means 'return to BASIC' and has no parameters.

To see the above m/c program in action, type in the following BASIC statements in direct mode i.e. no line numbers.

```
MEMORY 29999
POKE 30000,&E3
POKE 30001,&07
POKE 30002,&CD
POKE 30003,&5A
POKE 30004,&BB
POKE 30005,&C9
```

What this has done is to load the six bytes into the computer's RAM at addresses 30000 to 30005. The initial MEMORY command is used to tell BASIC that you are reserving all memory above the given address for your own private use. To execute the program, type CALL 30000. It shouldn't surprise you to learn that CALL simply tells BASIC to execute the machine code program at the given address.

It may seem that we've rushed on a bit but don't worry, next month we'll concentrate on a few specific machine code instructions. If you think you've understood everything so far, try altering the program to print the letter 'A' on the screen instead.

THE DUNGEON MASTER

The excitement hots up as DM gets ready for the dark winter nights.

As summertime slowly wanes and the daylight hours become fewer, the adventuring spirit returns and eagerly looks forward to many a long winter's night, huddled next to a hot computer. With this same thought in mind, those awfully nice adventure writers and distributors start releasing a fresh supply of our much needed nectar. Yes folks, after the doldrums of the summer holidays, the Dungeon is now bulging once again with new adventures for you to play and enjoy.

RECREATION RE-CREATION (henceforth to be referred to as REC REC to save my typing fingers,) have been adding quite a few more titles to their ever-growing list of adventures, which includes both re-released oldies and some brand newies. The latest to reach me are:-

TALISMAN by Simon Langan. HERO SELECT by Alex Gough. BEHIND THE LINES by Lee Martin. MONSTERS OF MURDAC (the original tape version) by jonathon Partington and ASTRAL PLAIN by Lynn Evans. THE HERMITAGE by Tony Collins and Richard Robinson is available in 3 versions. Either text only or with graphics, plus a special 58K edition (which needs 128K available memory to run), which incorporates parts one and two of the Spectrum version. Previously only part one was available for the Amstrad.

Mark Eltringham – Chief bottle washer of REC REC, also informs me that the following adventures should be released by the time you read this article:-

BOOK OF THE DEAD – a new debugged version. (Incidentally, if you have a bugged version of this game – send it to Mark with a SAE and he will eradicate the insects for you. What a nice man). FLASHBACK and also THE CALLING by Visual Dimensions and (providing that a certain Spectrum adventure distributor can be persuaded to be charitable,) an Amstrad version of JECKYLL & HYDE. Mark is working on still more games to be released shortly and for the latest news or to order software, you can contact RECREATION RE-CREATION SOFTWARE at 39 Gargle Hill, Thorpe St. Andrew, Norwich, Norfolk. NR7 0XX.

ATLAS ADVENTURE SOFTWARE are next on this month's list. They tell me that following the success enjoyed by GRUE-KNAPPED!, Bob Adams has now written a further humorous adventure entitled HELVERA – MISTRESS OF THE PARK. The advertising blurb from Atlas goes *"This devious adventure will keep you puzzling while you split your sides laughing. Everyone who knows Bob's style will adore this one. Packed full of puzzles, humour, spooks, traps and lots more – an experience not to be missed."* It can be obtained from 67 Lloyd Street, Llandudno, Gwynedd. LL30 2YP for £2.99 tape or £4.00 disc.

More cheek blushing mail has been received this month. These are a few examples, heavily edited to conceal my embarrassment:-

"I think your section should be enlarged"

Richard McCarthy, Warrington, Cheshire. *I hope you are referring to my article, Richard!*

"I think your series of articles on adventure games is excellent!" T. Huns, Burton Joyce, Nottingham. *Thank you T – but please don't be so formal next*

"Nice to see ACU have listened to popular opinion and brought back the adventure column. It's double nice that they've got somebody sensible (but not too sensible) to write it."

Simon Avery, Chudleigh, S. Devon. *Gee Simon, you say the sweetest things.* Simon has also included a list of completed games he is willing to offer help on, so that leads us nicely on to this month's...



Scrolls of wisdom

The following good people who are experienced adventure players, have

kindly offered to help any readers who are having difficulty with a particular problem. Please do not ask for full solutions and treat the "Scrollers" with due respect. Either telephone them ONLY during the times shown or include a stamped S.A.E. if you write to them.

Simon Avery. Tel: 0626 854339. 71 Fore Street, Chudleigh, South Devon. TW13 0HT. can assist with not only all of his own PUBLIC DOMAIN adventures but also with:-

Case of the mixed up Shymer, Quest, Black Knight, Forest at Worlds End, Jewels of Babylon, Ghost House, Seabase Delta, Hobbit, Boggit, Scary Tales, D.A.A, Nite Time, Black Fountain, Caves of the Bewbews, Grue-Knapped!, Helvera-Mistress of the Park, Crispin Crunchy, Souls of Darkon, al-Strad, Escape from Planet Doom, Cave Capers, Conch, Yawn Message from Andromeda, Quest for the Golden Egg-cup

The Grue. Tel: 0695 573141 (7.30pm to 9pm Mon to Fri) 64 County Road Ormskirk, West Lancs. L39 1QH. Promising not to eat you despite his name The Grue offers help on every Infocom adventure:- Ballyhoo, Cutthroats Deadline, Enchanter, Hitchhikers Guide, Hollywood Hi-Jinx, Infidel Leather Goddesses, Lurking Horror Moonmist, Planetfall, Seastalker, Sorcerer, Spellbreaker, Starcross, Stationfall, Suspect, Suspended, Wishbringer Witness, Zorks 1, 2 & 3.

Hints & Tips

Edmund Spicer offers us the following for our delight and delectation:

THE RACE.

Examine snooker table: Give beer to Les: Buy the launching trolley.

CAVES OF BEWBEWS.

Get spell book and stone before falling in the water: if you have the stone try typing "SLARP": Kill the monster with the gun.

Simon (Casual Crusader Mk IV) Avery pops up again with:-

DETECTIVE.

Give Rigarl the Bible: Show pass to the sentry: In the house, lever the jammed door with crowbar.

CROWN JEWELS.

Kill the jailor with the sword: At the chasm, throw grappling hook and swing rope: Chest? Open, hold breath, look: Kill the robbers with the sword: To get the sword, smash the rock with the hammer: Kill the guard and Priest with sword.

CASIOPIA.

Get the wrench with the crowbar: Eat the pasty: Fix transporter with wrench, screwdriver and power pack: Cross quicksand with the tennis racquets: Feed fodder to the boar: Attach the coil of wire to the terminals (this short circuits the robot) and press button: To cross the pit, make bridge with plank, nails, hammer and formica.

Well I hope that I've covered your particular problem in the above selection but if not, you should know what you need to do. Just write in and tell me the title of the game and where you are stuck. Then as if by magic, the answer will appear in these pages.



Help me!

First plea for help this month comes from T. Huns of Burton Joyce who describes him/herself as a very inexperienced adventurer. Their problem is with finding the green elf-stones in the LORD OF THE RINGS in order to get past the Black Riders. Now providing that the random elements of this game haven't altered things too much, you should find that Pippin is carrying them after he is released from the willow, also at the top of the climbable tree and yet again in the plant pot. It is also possible to avoid the Black Riders by careful mapping and timing but this of course takes much longer.

Richard McCarthy from Warrington, is hoping that we can help him in another old favourite, namely THE HOBBIT. Richard is in the Goblins dungeon with Thorin and can't get out. Okay Richard, tell Thorin to "open window" and then to "carry me" and finally to "go window". As a tip, it is a good idea to save your position immediately you get out as it is quite likely that you will get caught by the goblins (very painful!) and thrown back into the dungeon again. Also make sure that you have dug in the sand, smashed the trap door and found the key before

Dave McCarthy (I wonder if he is related to Richard above?) from Dunstable, cannot get past the dragon in CASTLE MASTER. Well Dave, although I do not consider this game an adventure and have never played it, my little helpers have come up with the answer for you. You must start firing at the dragon immediately you enter its lair and keep on trying to hit it with rocks between its eyes. Eventually it will die.

And now it's YOUR turn to help Patrick Dyson of Shipley. He would like to know in

LANCELOT:

1) How do you get the harp off the mermaid?

2) How do you get the key from the giant?

In SEABASE DELTA:

1) What do you have to with the computer, sliding doors or telescope?

Several readers responded to Trevor Bright's quandary as to what to do with the pig in THE HERMITAGE. Mark Eltringham's solution seems to me to be the definitive one and also goes on to explain why I didn't know the answer myself. Mark says "Board (the) boat and take the pig with you. Row boat. Kill pig with dagger. You need the blood from the pig to complete the game at the end. Trevor Bright must be a Speccy adventurer, as the only Amstrad version that has the pig in it is mine on the 128K PAW job and it hasn't officially been released yet."Well done Mark. In just a few lines you have provided a solution for Trevor, an excuse for me not knowing the answer and an advert for your software company. This boy should go far!

Until next month, happy adventuring.

Please send all correspondence, hints, complaints, money, etc to:- The Dungeon Master. C/o ACU, Sunnyside Cottage, Carluddon, St. Austell, Cornwall. PL26 8TY.

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Don your full metal jackets as the ACU team dares to enter the Robo Zone, takes on the sub-aqua terrors of Thunder Jaws and enters the twilight world of the Darkman.

BOMB ALLEY

ROBOZONE



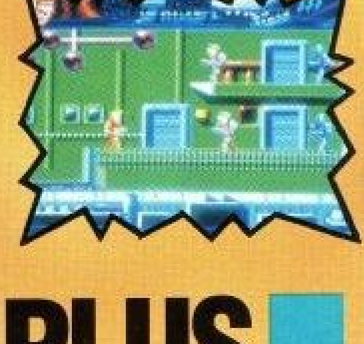
Are you good enough to survive this epic future shock?



DARKMAN

Take heart as the shadows come to life

THUNDERJAWS



Step carefully in the fearful domain of Madame Q

PLUS

The best CPC blasts on the market to suit all manner of blasting tastes, along with even more of the choicest budget coverage around. Don't miss it if you know what's good for you!

TOP 20

1 (NE) Shinobi
Mastertronic
2 (3) Bubble Bobble
Hit Squads
3 (5) Magic Land Dizzy
Code Masters
4 (1) Dizzy Panic
Code Masters
5 (4) Double Dragon
Mastertronic
6 (6) Dragon Ninja
Hit Squad
7 (2) Quattro Cartoon
Code Masters
8 (9) Cavemania
Atlantis
9 (8) Red Heat
Hit Squad
10 (NE) Renegade 3
Hit Squad
11 (12) Professional Footballer
D&H Games
12 (20) Quattro Racers
Code Masters
13 (14) Quattro Firepower
Code Masters
14 (NE) Untouchables
Hit Squad
15 (NE) Manchester United Europe
Krisalis
16 (NE) The Games – Summer Ed.
Kixx
17 (19) Quattro Adventure
Code Masters
18 (11) Dizzy Collection
Code Masters
19 (NE) Footballer of the Year 2
GBH
20 (NE) Impossamole
GBH

Last month's position in brackets



Thunder Jaws

The blast has arrived – will you survive it?

Following up from our exclusive preview in the June issue, Thunder Jaws has hit the streets with a bang! If you haven't managed to locate it yet, start looking harder, because this is one blast you don't want to miss out on.

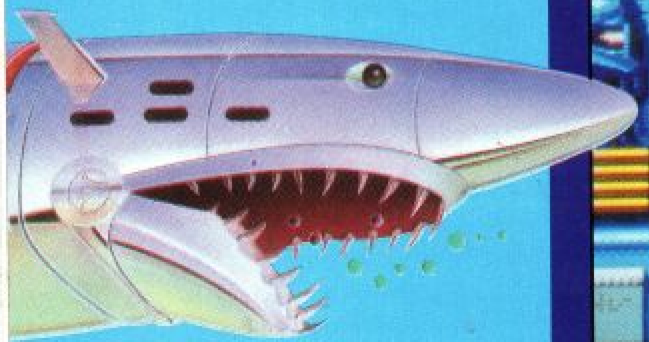
Female swimmers have been disappearing in the region of Madame Q's hidden fortress and, finally, the initial rumours are confirmed; deep in the dark ocean, Madame Q is carrying out hideous human experiments to create a new breed of mutants – half human, half lizard.

Your task is to don your diving gear and infiltrate Madame Q's defences before the whole shebang gets out of hand.

Using some supersmooth scrolling and special effects, Thunderjaws is a joy to play from start to finish, if you make it that far of course.

Along the way, each separate level is guarded by some pretty horrific creatures, and each stage will see you battling it out underwater and inside a part of the evil fortress.





To start off with, you only have a few divers and sharks to deal with, along with the missile bases, of course. However, as you progress onto dry land, you'll meet up with the likes of the Fire woman, the Battle Tanks and the Robo-Dogs. Let one of the latter catch up with you and you'll be nursing a very sore ankle for some time.



At the end of each level, you must make it to the Control Room and despatch with a very mean guardian, before you can go any further.

Fast and frenetic trigger action is what this one's all about, so keep your eyes peeled at all times for extra ammo to boost your fire power. Your conventional Uzi works wonders, but an Explosive Bolt, a Tri Shot or the superb Super Seeker will help you out no end.

Along the way, you'll need to pick up first aid and oxygen supplies as well, to keep you healthy enough to carry on.

The going is certainly tough from the very start and it is just as well that a very handy continue option is included, allowing you to pick up where you left off, instead of battling from the very beginning again.

Mastering the controls is simple enough, even though it may take a little time to get used to the delayed actions of underwater environments.

At all times, however, remember the horrid fate that awaits those defenceless women if you fail. It's all up to you, so take the battle to the bad guys in this excellently original, underwater shoot-em-up. Superb value for money and a totally addictive blast, well done Domark.

Jim Johnson

ROUND-UP			
NAME	Thunder Jaws		
FROM	Domark	PRICE	Disc £17.99 Cassette £10.99
89%	88%	94%	TNT
GRAFFIX	SONIX	PLAYABILITY	VERDICT



Darkman

Hideously disfigured you, Darkman, must take on the bad guys and conquer.

You know who did his horrible thing to you, and you know who is holding your true love hostage. The problem is, how to get to them?

Hideously disfigured in an explosion manufactured by the evil mobster Robert G.Durant, you are hell bent on revenge, determined to do away with everyone in league with the notorious drug baron but, to do this, you must find money.

In this superb film licence, you take on the role of the Darkman, a brilliant scientist who has worked out the technology to disguise himself as whoever he pleases. To start off, you must take some mugshots of your targets to complete your disguise, before getting out to take on the bad guys.

Set over six marvelously created levels, your first task is to waylay an illicit drugs money drop in Chinatown. There's plenty of fighting afoot, and you'll need to be quick to get your hands on the dosh.





During the chaos, level two sees you trapped inside the factory, surrounded by Durant's henchmen. The only escape is up on the roof, so get climbing fast if you want to survive. Along the way, take particular care to avoid the machinery which Durant has set in motion to destroy you.

Pick up your energy pack and get going towards your laboratory across the rooftops, with Durant's heavily armed helicopter in hot pursuit.

After destroying the warehouse with a carefully timed bomb, your next task is to get a grip on the rope hanging down from the helicopter. It's your only escape from the blast, but it leads you into even greater danger as Durant lowers you down to the freeway and the oncoming traffic.

Swinging about wildly is the only way to avoid collision, so time yourself and make sure you don't get hit by a loose grenade.

Survive long enough and you may get the chance to attach the rope to the oil tanker, pulling Durant to his well deserved death.

Your final mission in this fast-moving thriller, is to take on the henchmen of the mastermind, Strack. Take them out and you're on your way to a final confrontation with the top dog on the skyscraper roof.

Watch yourself, as the place really is teeming with henchmen. Fail, and your girlfriend is in for the chop, so get kicking and make sure you succeed.



Featuring some totally atmospheric graphics, Darkman is an absolute joy to play at all times. The scrolling is smooth and the controls are easy to master in this all out beat-em-up of the highest order.

Following the plot of the film very closely, Darkman is certainly addictive and guaranteed to have you coming back for more.

John Taylor

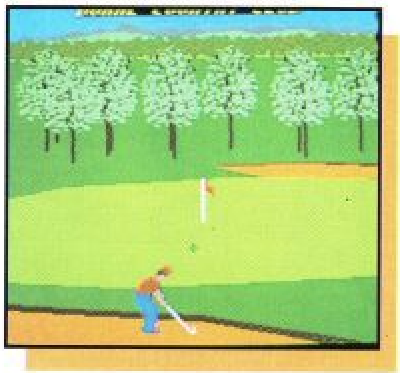
ROUND-UP

NAME	Darkman		
FROM	Ocean	PRICE	Disc £14.99 Cassette £10.99
82%	78%	83%	
GRAFFIX	SONIX	PLAYABILITY	VERDICT

GRANDSTAND

Sporting fans rejoice as yet another corking compilation hits the streets.

Whether you're into soccer, tennis, the rough and tumble of the race track, or a more sedate round of golf, make sure you have a look at Grandstand before you make your next sporting purchase.



Jampacked with action, this excellent compilation from Domark starts off with the superb Gazza's Super Soccer, giving you the chance to take on the best of the teams around the country, showing off your footie skills on the way to clinching the league title, not to mention the cup.

Using the easy-to-follow menu set-up, choose your favourite team, or create a new one to suit your tastes, and then customise leagues and cup championships to challenge your playing prowess.

On the pitch, the graphics are excellent and, even though getting used to the Boot-O-Meter may take some time, the play is smooth and totally addictive. Well worth a bash.

Next in the line-up is the brilliantly devised Pro Tennis Tour, which will have you puffing and grunting your way up the world rankings on grass, clay and cement at some of the classic tournaments on the Grand Slam trail.

Starting off at the Melbourne Open, your next task is the French Open, before moving on to Wimbledon and home glory. A spot of practice is much advised, however, before you launch yourself into your career and, with the host of options available, you should be able to take on the best of the rest before too long.

Work out your moves, plan your attack and make good use of the save/load option to ensure smooth progression in this excellent simulator.

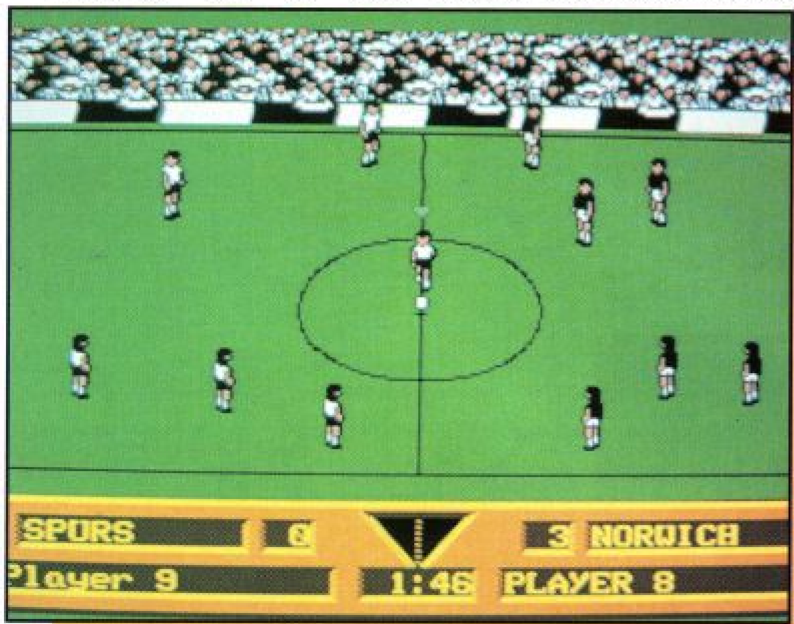
For motor racing freaks, what could be better than an outing on eight of the world's best tracks, outgunning the opposition in a desperate bid for Formula One status. You get four lives to start off with, so use them wisely to ensure that you qualify on each track to keep your dream alive.

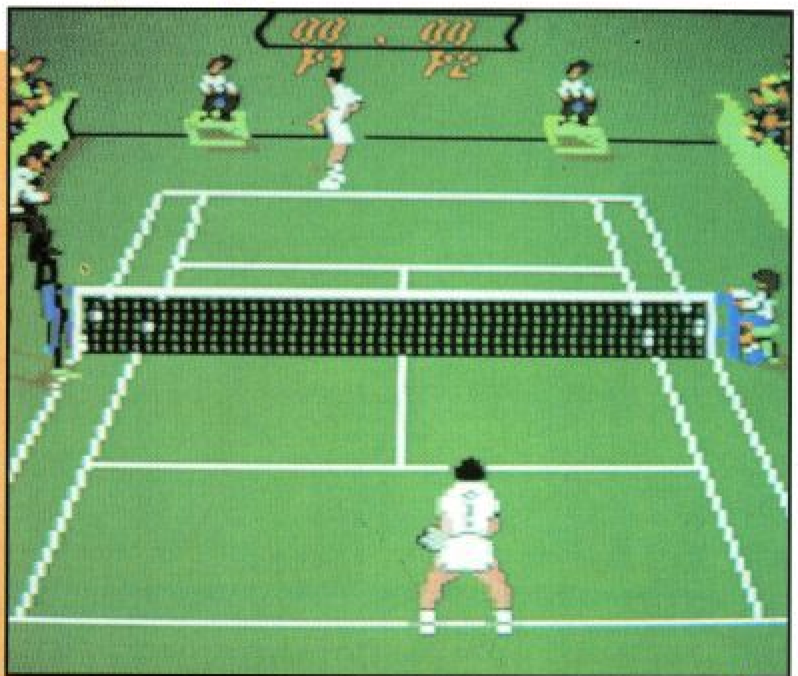
Superbly smooth and featuring some excellent graphics, Continental Circus was a classic in its own right, and is a superb choice for inclusion in the compilation.

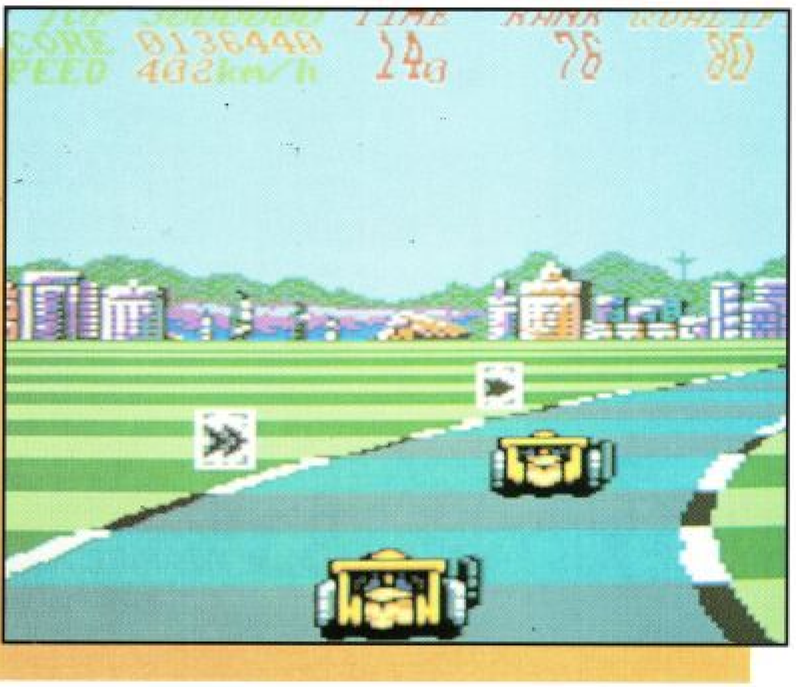
Last, but by no means least, why not check out St Andrews or Cyprus Creek for a peaceful 18 holes of championship golf? If you haven't played World Class Leaderboard before, then you've missed a real treat. Even though the CPC version lacks some of the more advanced features of the 16-bit offering, there is still a massive array of options to make this little outing totally addictive and a gem to play. For up to four players, World Class Leaderboard is a must for lovers of the green and well worth having a look at.

All in all, a brilliantly conceived compilation that'll keep you busy for hours. Well done, Domark.

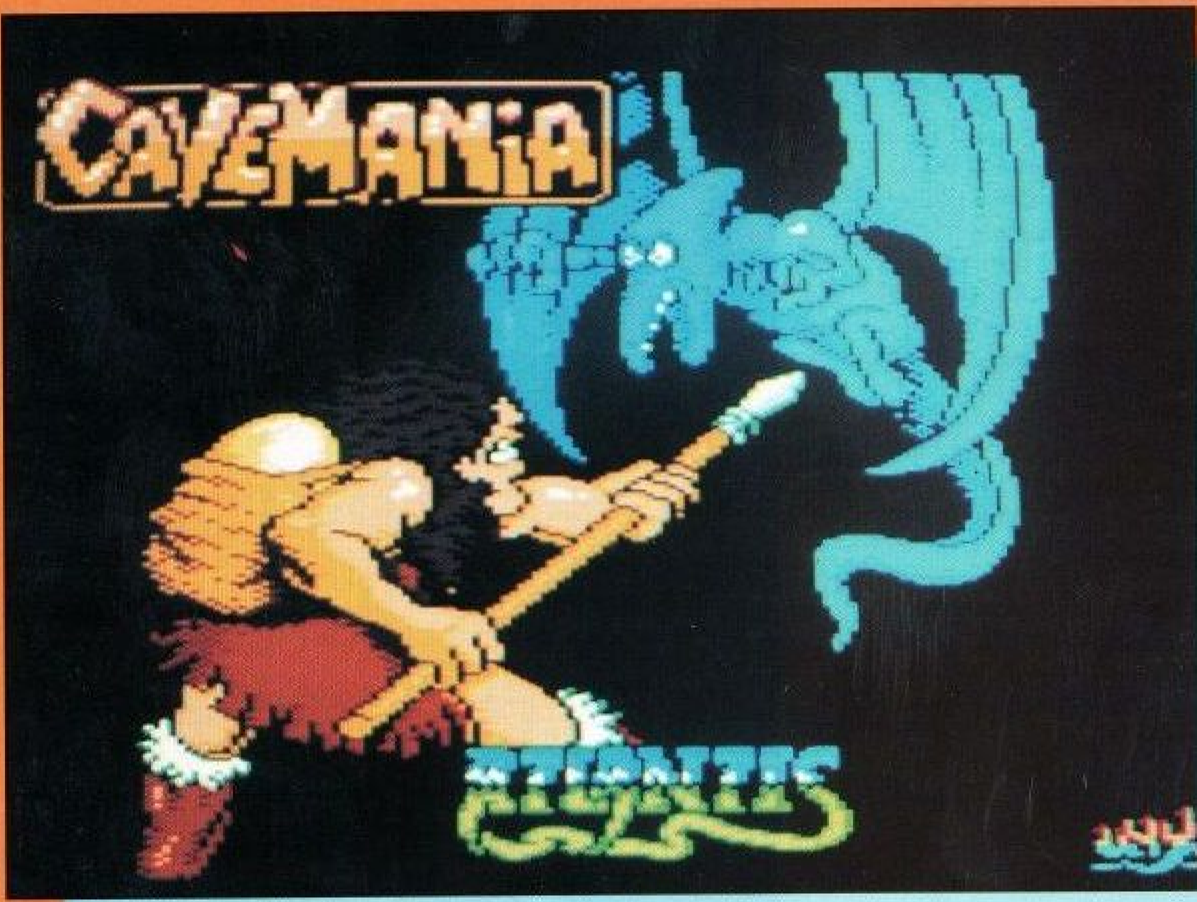
Jim Johnson







ROUND-UP			
NAME	Grandstand		
FROM	Domark	PRICE	Disk £19.99 Cassette £14.99
88%	82%	89%	TNT
GRAFFIX	SONIX	PLAYABILITY	VERDICT



CAVEMANIA

Play the part of Ug in an adventure of truly prehistoric proportions.

Imagine the scenario; Brontosaurus steaks for breakfast, brontosaurus steaks for lunch and so on and so on. Now, wouldn't you yearn for a little change?

Consider the plight of poor old Ug, there he is sitting on his island clifftop, when he spies some sumptious looking Pterodactyl eggs high up on a ledge. Would you go after them? Of course you would, come hell or high water.

So there you have it. In this excellent little outing, you take on the role of Ug in his desperate attempt to add a little flavour to his diet, but this is certainly no picnic.

Armed only with your club and a handful of stones, you must take on the might of the dinosaur kingdom, as well as the forces of nature, to succeed in your yolk quest over the series of islands before you.

On each island, there are three eggs to collect, although you are only strong enough to carry one at a time. Pick it up and be sure to take care crossing the torrent that criss-crosses your journey home. Fall in and the egg will be broken for sure.

Once you have collected all three eggs from an island, you can progress to the next, meeting even graver danger in the process, on your way to the infamous Spike Island. Plenty of opportunities await those brave enough to step ashore here, but be warned, there are just as many dangers as well.

Extra points can be earned by picking up fruit on your travels, to keep you replenished and keep your eyes peeled for rocks at all times. These will come in very handy at the first sign of a dinosaur assault.

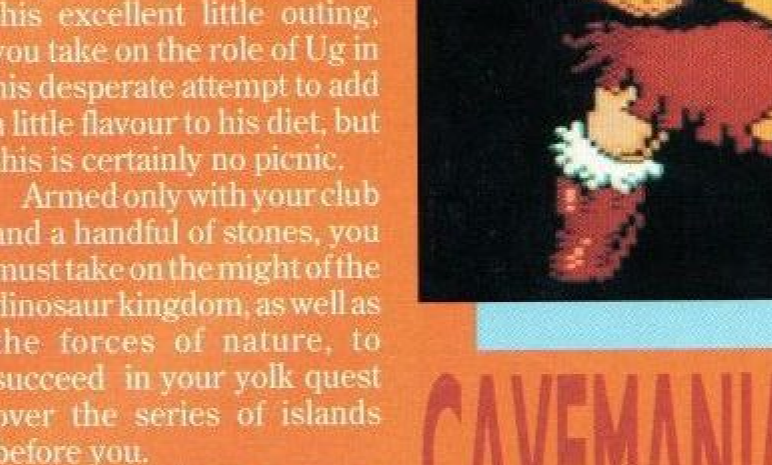
Using your stones and club to do away with your adversaries will also help to boost your high score no end but be careful, those pterodactyls can get very nasty if they catch you stealing their eggs.

Apart from the animal opponents, tread very carefully on unknown territory, especially in the vicinity of the volcanoes, which have the irritating tendency of erupting just at the wrong moment.

All in all, Cavemania is an exceptional offering with some marvellous touches of humour to add to the gameplay. The graphics are clear and the sound effects are certainly atmospheric.

Succeed in your quest and you'll make Ug a very happy caveman indeed. Fail, and you'll share in his despondancy enough to make you want to start again straight away on this marvellous, tongue in cheek adventure. Try it, you won't be disappointed.

Jim Johnson

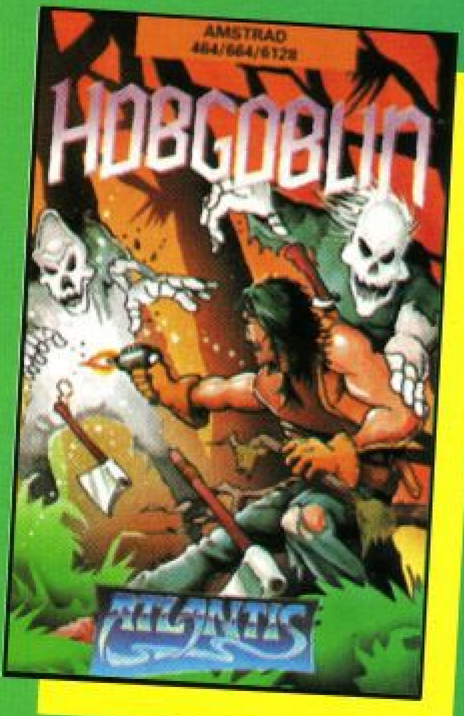




ROUND-UP			
NAME	Cavemania		
FROM	Atlantis	PRICE	Cassette only £2.99
87%	76%	84%	TNT
GRAFFIX	SONIX	PLAYABILITY	VERDICT

HOBGOBLIN

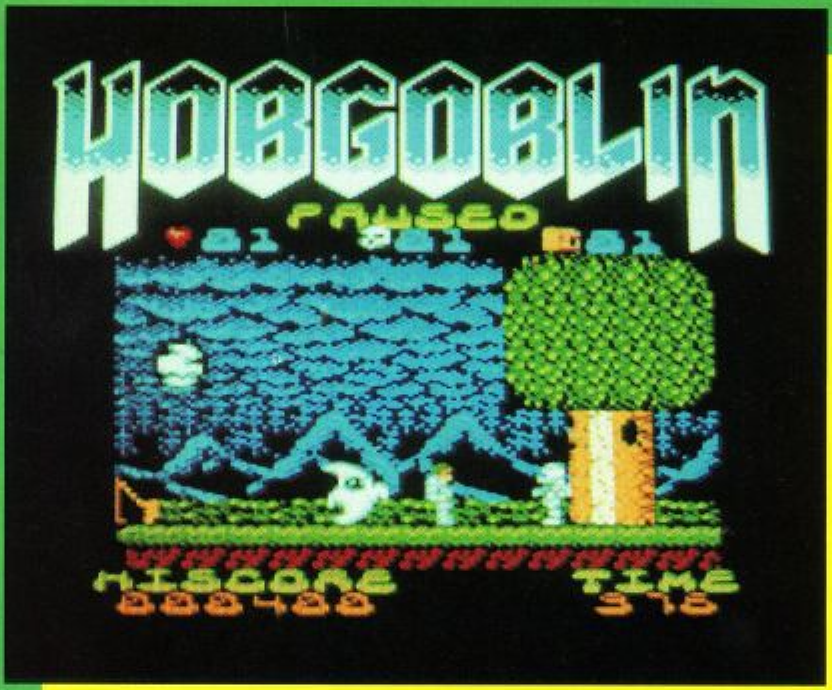
The Orb is missing! Dare you enter the swamplands to find it?



Long: ago, in the far off land of Altoris, lived a peace-loving nation ruled by the good and gracious King Garath. Surrounding the golden boundaries of the land, were the foul-smelling swamps and dense woods of the hobgoblins.

Despite constant attack from the foul countries, in the form of ghosts, ghoulies and hobgoblins, Altoris was kept perpetually safe under the mighty Golden Orb, which kept a watch over the borders and stopped any underworld invasions before they started.

However, one fell day, the Orb was stolen, leaving the fair land of Altoris to the clutches of the dark powers. Summoned before your father King Garath you, as his only son Zanock, have been charged with the mission to go out into the swamplands and recover the Orb, before darkness envelopes Altoris forever.



Ok, so what are a few ghosts to a hardened hero? Quite a lot when they can kill with a touch. Venturing out into the darkened atmosphere of the ghost realm, there are veritable hordes of supernatural beasties to contend with if you want to find the orb.

Watch out for the ghosts and hobgoblins, who will steal away your strength at a touch. More horrible still are the skeletal remains of long dead creatures, armed to the teeth with razor sharp daggers and axes, not to mention the phantom bowmen, secreted amongst the trees, with endless supplies of arrows.

Still undaunted? You'll need to be if you want to go adventuring through the various levels of the swamplands. As you seek out clues to lead you to the orb, keep your eyes peeled for power-ups, to help you ward off the evil threats.

Glowing daggers are few and far between but, pick one up and you'll find the strength returning to your weapon arm. If you can't find the dagger, just pick up as much treasure as you can for similar results.

Starting off, you can only enter into close arm combat. Find the glowing arrow, however, and you'll find your attacking range greatly increased. Very handy indeed when the action starts hotting up in the later screens.

An even greater boost would be to gain an extra life. Believe me, you'll need all the help you can get if you want to survive, so keep a look out for the glowing skulls hidden in the undergrowth. Three of these and you should find your playing power greatly enhanced

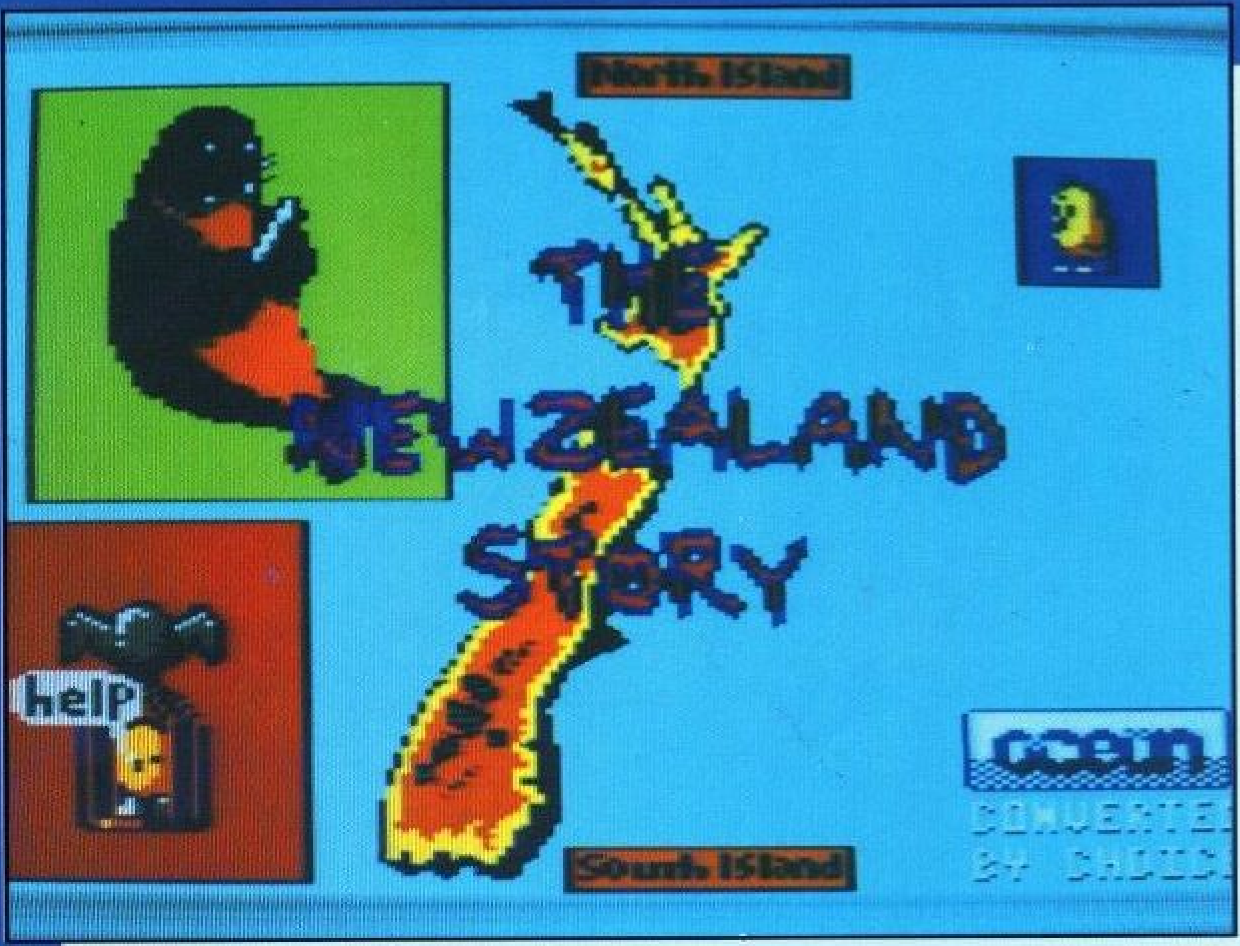
Hobgoblin is an excellent adventure offering, totally original with plenty of action to keep you going at all times. To find the orb, you will need to be quick and very, very cunning.

The evil hordes are no novices, so master the moves and do your best to save the land of Altoris. Marvellous graphics, atmospheric backdrops and some superb sound effect make this adventure a must for serious gamesters.

John Taylor



ROUND-UP			
NAME	Hobgoblin		
FROM	Atlantis	PRICE	Cassette £2.99
89%	88%	92%	GOLD
GRAFFIX	SONIX	PLAYABILITY	VERDICT



THE NEW ZEALAND STORY

It's zootime folks, but this is no time for spectating.

Ok, so this one has been out on the full-price label before, but the gameplay is so good, it's got to be worth another mention.

Life in the Aukland zoo is serene as can be, especially for a fun loving Kiwi. Everything is about to change, however, as the psychotic walrus comes to town, with a ravenous appetite for fresh kiwi.

True to form, the Kiwis are bundled up by the walrus and hidden in 20 perilous locations around the zoo. Who's going to save the kiwi tribe before they get eaten? You of course.

Managing to struggle your way free from your bonds, it is your task to track down your friends, taking on all manner of baddies along the way, armed with only a bow and arrow for starters.

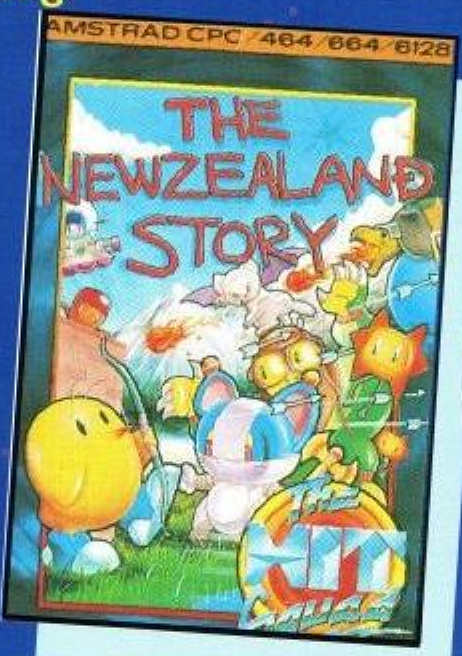
One of your relatives is hidden on each of the levels and, on some of the earlier levels, the direction you need to travel in is clearly marked out. Very handy indeed for the novice. However, as you progress, things get tougher and, releasing your friends on many levels will alert the Big Guardian to your progress. Tread carefully or you'll end up a very bruised fruit indeed.

Along the way, doing away with the opposition can be very lucrative indeed. Picking up any items they drop can greatly enhance your fire power, and even treat you to a short dose of invulnerability.

Remember at all times that kiwis cannot fly or breathe underwater, this is vital if you don't want to hand over valuable lives for nothing.

To get airborne, simply steal someone's balloon by jumping aboard and then dealing with the occupant.

Similarly, to get across the watery elements, pay careful attention to your oxygen limit when you go under. When you need a refill, simply come up to the surface and spit the water out. If you are skilful enough, you may even manage to pot an enemy with your waterspout at the same time.



Mastering the controls on this excellent offering may take a little time but, practice makes perfect, and you should find your skills increasing as you play.

NZS really is one of the most playable platform games around and remains one of the most entertaining blasts on the market. The graphics are bright and colourful, each of the levels holds surprisingly different problems and enemies and the gameplay is simply superb.

For all round entertainment, NZS has to be one of the best original blasts to be put out on the budget label. If anybody was silly enough to miss it the first time around, you'd have to be raving bonkers to skip it on the cheap side.

Take on the role of Tiki the kiwi and get blasting-you'll be hooked within minutes.

Jim Johnson

ROUND-UP			
NAME	New Zealand Story		
FROM	The Hit Squad	PRICE	Cassette £3.99
89%	88%	92%	
GRAFFIX	SONIX	PLAYABILITY	VERDICT

Robozone





You, robot, are the sole chance for human survival on planet Earth. Dare you take on the challenge?

New York is the venue: the year, 2067 AD, a time of desolation, destruction and warfare. What human life remains in the pollution rife city is forced to struggle for survival in the ruins, forced to face horrors both of their own and of others' making.

And just how did all this come to pass, you may ask yourselves? Well, just take a look at what we're doing to our planet at the moment and you'll begin to realise that the grim prospect of a dead, polluted world isn't as far-fetched as it seems.

Be that as it may, the scenario goes something like this: Faced with the prospect of a dying world, the political and scientific heads of state decided that the best thing to do would be to gather together and abandon the polluted world, living instead on self-contained city ships far out in the oceans.

Ordinary humans were left to fend for themselves in the ruins, in the company of the Wolverines. Designed by the top boffins before they left, the robotic wolverines were programmed to partol the cities and keep them intact until the pollution disappeared and life in the cities was possible once again.

Programmed not to harm humans, the Wolverines soon found themselves breaking this law, as the criminal element which still inhabited the city seemed hell-bent on destroying everything. Naturally

embittered about the desertion of the authorities, war soon broke out in the cities between human and robot, a fruitless war without winners until, that is, a savage new element was introduced in the form of the Scavengers.

Terrifying insect-like robots, the Scavengers took no pity on Wolverine or human but, instead, seemed determined to build up a terrible furnace in what had been Central Park. Here, all



manner of metals and alloys were gathered to create more pollution and mutant Scavengers.

As time went by, more and more of the Wolverines succumbed to the dark Scavenger forces, until only one remained to take on a desperate attempt to stop the Scavengers from destroying the world.

Got the picture? Yes, this is where you step in as the last Wolverine, a badly damaged robotic giant with broken circuitry and little chance of destroying the giant furnace of the Scavengers. Yet this is your task.

Set over three leviathan levels, your first task is to penetrate the Scavengers' lines of defence through the subway system, in a bid to get closer to the furnace on the streets of New York.

Along the way, get your trigger finger well greased as the hordes of Scavengers descend upon you, from in front, behind, above and below. Some are armed, while others are only scouts. Kill them all, however, or more will arrive to finish you off.

Armed with a very handy, refillable machine gun, you must blow away everything in your path, whilst at the same time trying to plot your way through the subway. No easy task. Keep a look out for power ups in your path, which you must crouch over to pick up, and keep a close eye on the increasing pollution level. If it gets too high, your machinery will pack up, leading to a premature demise and the end of humanity.

Take care with the humans you may meet as well, for they are very untrusting of anything remotely robotic.

If you manage to plot the correct route through the subway, your next mission, in order to stand any hope of penetrating the defences of the Furnace, is to gather up the missing pieces of your Oracle on-board computer. These you will find lying around the streets but, to piece them together, you will first have to locate the communications circuit, to put you in touch with the last remaining scientist in the city, The Tank.

Approach the Tank without the communicator and he will attack you as a Scavenger but, if you have the device, he will assist you in rebuilding the Oracle.

Again, there are a host of Scavenger adversaries to take on here, and be careful as you approach the crossroads, you never know what is around the next corner.

Totally rebuilt and fighting fit, you must now undertake the fiercest mission of all, the overthrow of the Furnace before the pollution level hits the roof.

Equipped with your rocket boosters, you must penetrate the outer defences of the Furnace, taking on the





hideous forms of half-constructed Scavengers and new, more powerful robots along the way.

Beware of the flying enemy as you stoop to pick up power-ups, before entering the very heart of the Scavenger's Furnace.

If you manage to get this far, you deserve a medal, but don't start congratulating yourself just yet, as the biggest adversary still awaits your approach.

The very heart of the Furnace forms the belly of the enormous Furnace Guardian, an extremely dangerous and ludicrously well-armed beast of mamoth proportions. Take him on in a bitter struggle to the death, which will decide once and for all the fate of Mankind.

Destroy him and pollution will be stopped, as well as the production of new Scavengers. Lose, and you'll just have to start all over again, won't you?

Robozone is scorching action from the very start, featuring some tremendously atmospheric backdrops and some truly nailbiting tension. The graphics are superbly produced, as are the sound effects, and the easy-to-master controls allow you to jump straight in at the deep end, in this tremendously crafted blast.

Study the firing controls carefully, especially when you come up onto the city streets and try not to spend too much time admiring the scenery, your very existence is at stake here.

Using the very handy continuation option will help to keep your bullets flowing from where you left off but, with careful mapping of the earlier sectors, zipping your way back to where you left off is a joy.

Totally addictive, brilliantly conceived and featuring frenetic action from start to finish, this original blast has to be a must for serious and not so serious shoot-em-up fans.

Jim Johnson

ROUND-UP

NAME	Robozone		
FROM	Image Works	PRICE	Disc £17.99 Cassette £10.99
89%	87%	94%	JACKPOT
GRAFFIX	SONIX	PLAYABILITY	VERDICT

Budget Basement

Yet more excitement as a new batch of budget blasts hits the streets

IMPOSSAMOLE

Look out as yet another budget label hits the market, this time in the form of Gremlin's exciting GBH title. To launch themselves onto this ever growing field, Gremlin has certainly picked a guaranteed success story, in the form of the mighty Impossamole.

If you happen to be one of the few who missed out on this epic blast the first time around, make sure you don't miss it this time. Non-stop action from start to finish, Impossamole is one of those offerings that you just can't put down once you start shooting.

Pulled dramatically from his sunshine island reveries, our hero is transported by space cruiser to an alien planet, where he must battle it out against the five evil guardians and rescue the sacred scrolls of eternal life.

Set over five exhilarating levels, you can choose each of the first four levels at random, though all of them must be completed before you take on the big baddie in level five.

On each level, every room and location must be explored carefully, in order to pick up vital supplies, power-ups and super weapons. Spend your money wisely at the shop and make sure you locate the hidden rooms on each level to boost your blasting power.

Brilliant graphics, non-stop suspense and an excellent sound track make Impossamole a truly complete blast that should not be missed under any circumstances.



FOOTBALLER OF THE YEAR

Footie strategy games come and they go, but this is one cracker that's going to be around long after many of the others have died out; another good move from the new GBH label.

The aim of the game is to become top striker and footballer of the year. Sounds simple, but to succeed, you're going to need every bit of skill and wit you possess.

Just like conventional striker games, you get the chance to edit league names and play for the team of your choice, but this is where the similarity ends. Before you play each game, you start off with a collection of goal cards. The more you have, the better chance you have of scoring. Buying extra cards will help, but you then have to plot and memorise each scoring move, to ensure that you get your player into the right place at the right time to stick the ball away.

As a result, the more moves you try, the more you have to remember.

To become a true footballing personality, however, you need to be more than a good player, you must have personality as well, and this is where your chance of making more money comes in. The Double or Nothing option allows you to answer football trivia questions, gambling up to £500 on the answer. Get them right and you'll be much better off. Fail and you'll be a darn sight poorer.

This money comes in very handy should you decide to make a transfer. A Transfer card costs £5000 and will guarantee you nothing unless you can answer more trivia questions, or score enough goals in your next matches to impress the scout.

If you are doing exceptionally well, you might even get picked for the International squad! Here, you must score a goal in each match, or you're out, so make sure you start memorising those goal scoring moves double quick.

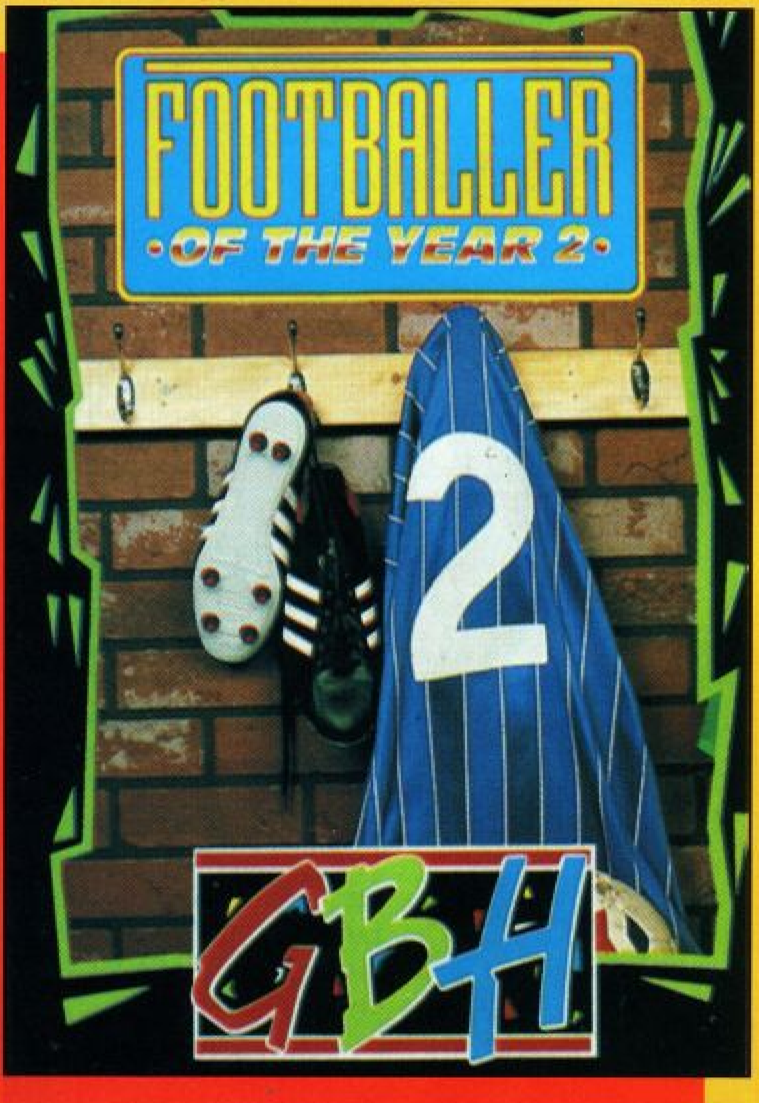
At all times, you can check on your state of affairs and go for more cash, in this totally brilliant striker offering. At the end of the season, there are two awards up for grabs. Win the Top Striker award and you are well on your way to the coveted Footballer of the Year award.

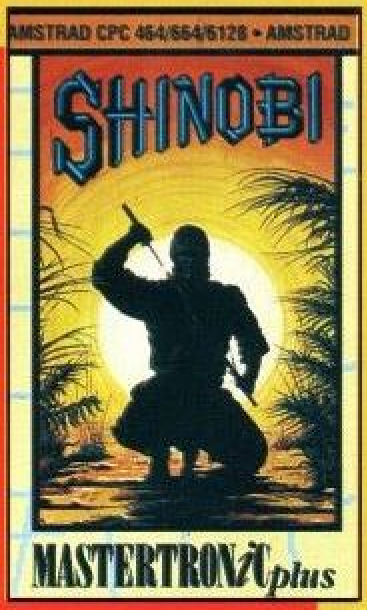
However, should you fail, you can always try again next season. The save/load option will help to keep you fresh and there's no doubting that much use will be made of this feature as you return time and time again to this gem of a game.

SHINOBI

There certainly seems to be some absolute classics appearing on the budget labels at the moment, and Shinobi is certainly no exception to that. A solid gold success the first time around, the budget blast should do equally well, featuring the same oriental artistry and Ninja magic.

The evil Bwah Foo has





kidnapped the entire junior class of the Ninja School and you, Joe Musashi, are the only Ninja good enough to go and get them back from Foo's hidden lair.

Set over five excellent levels, you must go into the fray armed only with your fists and feet and a handful of deadly Shuriken.

Each of the levels is jam-packed with Foo's henchmen, and you must take each and every one of them on, in a desperate struggle to locate the missing children before the time limit runs out and they are put to death.

At the end of each level, one of Foo's most deadly companions awaits you but, to earn your place in a battle to the death with him, you must first locate each child on the level. Walking over them will transport them home and boost your points considerably. Save several and you will earn yourself a much-needed power up weapon and, when the going gets really tough, remember that old Ninja Magic.

You can use it once per level, so use it very wisely indeed to get you through the worst of the fight. Make it to the core of Foo's hideout and you've done very well indeed, in this superb Ninja blast that really did outshine many of the other similar offerings.

Excellent graphics, fluid movements, clevery thought out scenario and smart sound effects all add up to make Shinobi one of the best value games on the market, even as a full price blast. As a budget label, it really should not be missed and is bound to shoot up the charts the minute it hits the shelves.

MOUNTAIN BIKE

On a totally different note, how about some championship mountain biking to while away a few hours? Trust Code Masters to pick up on the very latest of crazes and bring it straight to your screens in style.

Utilising some excellent location backdrops and some superb scenarios, this is your chance to climb aboard and get pedalling for the top prizes in this ever-growing sport.

Pick your bike, make sure that it is in tip top race condition, then pit your skills against the best of the rest, over a variety of extremely tough courses.

Designed to test your endurance to the limit, Mountain Bike is an excellent simulator that takes all of the excitement of the real thing on board. The controls are fairly easy to master and, after a little spin around the practice track, you should find yourself putting up a valiant struggle against your seasoned opponents.,

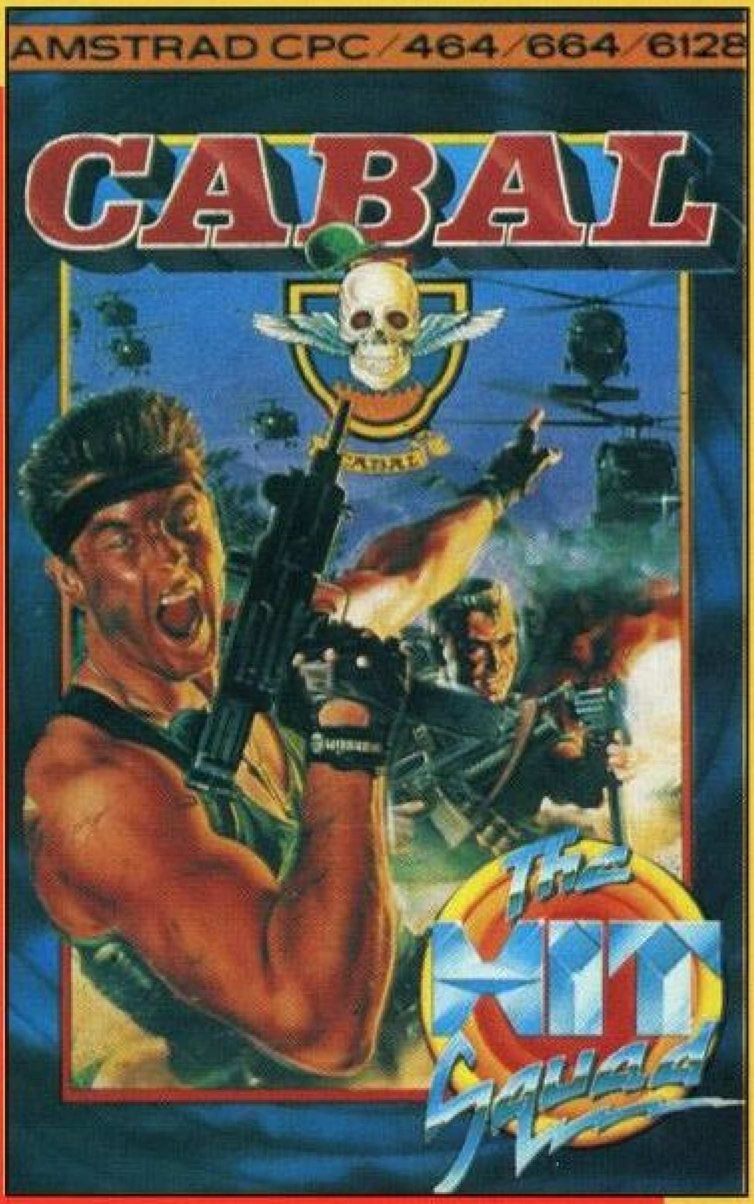
Are you good enough to take the overall title? With a lot of dedication, a little luck, and lots of hard graft, you could find yourself getting very close and, even if you don't make it the first time around, you're going to keep coming back to try again until you do.

Pick your track and see if you can end up as the King of the Mountains now.

CABAL

Roll up shootie freaks, your time has come, as one of the biggest and best trigger-happy blasts hits the budget shelves. We all know the aim of this game: get out there and blow everything away, including buildings, tanks, trucks and enemy troops.

This is pure blast from the word go and should have the sweat pouring off you by the time you get to the end of the first level.



There are five frenetic levels to blast through, each comprising of four separate stages. Your task? Basically, you must blow away all enemies, tanks, helicopters, planes and cars.

Make it through to the fourth level and you'll come up against the big baddie, who's hell-bent on thwarting your progress.

Starting off with an endless supply of machine gun rounds, you can pick up some pretty juicy weaponry, including bazookas, by destroying certain objects. Use the scenery well to hide yourself from enemy attacks and use your grenades wisely to destroy as much as possible.

Hitting the trucks before they unload is also a good idea in this non-stop action blast.

To keep the action flowing, you also get the chance of one continuation play. Lose all your lives and you get one chance and two more lives to carry on where you left off on your mission.

Fail this time and, unfortunately, it's back to the beginning again. Great graphics, with plenty of variety in backdrops and gameplay, Cabal is an absolute must for trigger happy fiends and a brilliant introduction to the art of all out combat. Try it if you dare.

Jim Johnson

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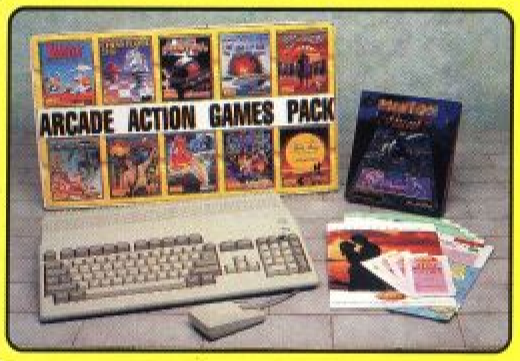
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GRAPHICALLY SPEAKING

Glynne Davis

launches into month two of his CPC graphics extravaganza.

If you followed last month's introduction to graphics programming and saved the final version called "EASY1", you will need to load "EASY1" before continuing with this month's modules. For those who missed last month's introduction, this is a series of modules spread over several months which develop into a graphics package of professional quality. Through building this graphics package, you should learn how to use the graphics available on the CPC and at the same time how a full program is developed. NOTE: The line numbers have been left as the original numbers. It is important that the numbers are strictly adhered to as forthcoming modules place new lines between certain lines in the original program.

Last Months Listing. You will need to type in the listing below if you missed last months article as the modules this month build on last months program.

```
10 REM EASYDRAW2
20 REM Variables x y (co-ordinates) jump (cursor move distance)
21 REM variables ip (ink pen) ib (ink border/paper) d (display) mde$ (mode selected)
23 REM variable beam (leave line if beam is on)
40 x=320:y=200:jump=10:ip=t3:ib=0.mde $="MOVE"
45 INK 1,ip:INK 0,ib:BORDER ib
50 MODE 2:REM 640x200 graphics
52 WINDOW 1,79,1,1:ORIGIN 0,0,0,640,384,0:GOSUB 12000:REM Set up a text window (window) to be the top line. Set up a graphics window (origin) for the remaining screen
60 GOSUB 5070:REM draw cursor
70 WHILE trip=0
80 CALL &BB18:REM wait for a keypress
90 GOSUB 5000:REM Cursor move
100 IF INKEY(53)=128 THEN ip=(ip+1) MOD 27:INK 1,ip:IF ip=ib THEN ip=ip+1:INK 1,ip:REM If CTRL+F are pressed change the Foreground colour
110 IF INKEY (54)=128 THEN ib=(ib+1) MOD 27:INK 0,ib:BORDER ib:IF ib=ip THEN ib=ib+1:INK 0,ib:BORDER ib:REM If CTRL+B are pressed change the Background colour and the Border colour
120 IF INKEY(61)=128 THEN d=(d+1) MOD 2:LOCATE 12,1:PRINT SPACE$(16);:REM If CTRL+D are pressed switch on x,y Display
130 IF d=1 THEN LOCATE 12,1:PRINT SPACE$(16);:LOCATE 12,1:PRINT "X";x;"Y=";y;:REM Dispaly X and Y
140 IF INKEY(50)=128 THEN GOSUB 5070:x=320:y=200:GOSUB 5070:IF d=1 THEN LOCATE 12,1:PRINT "X=";x;" Y=";y;:REM Reset X to 320 and Y to 200
150 IF INKEY(54)=0 THEN GOSUB 11000:beam=1:a=x:b=y:GOSUB 12000:REM Reset all the function variables to zero (line 11000) and Reprint status line
160 IF beam=1 THEN GOSUB 4500:a=x:b=y
170 IF INKEY(38)=0 THEN GOSUB 11000:GOSUB 12000
500 WEND
4500 REM draw line (BEAM)
4510 GOSUB 5070:REM Remove cursor
4520 MOVE a,b
4530 DRAW x,y,1
4540 GOSUB 5070:REM Replace cursor
4550 RETURN
4990 REM **************************
5000 REM Cursor move
5010 IF INKEY(1)=0 THEN GOSUB 5070:x=x+jump:GOSUB 5070
5020 IF INKEY(8)=0 THEN GOSUB 5070:x=x–jump:GOSUB 5070
5030 IF INKEY(2)=0 THEN GOSUB 5070:y=y–jump:GOSUB 5070
5040 IF INKEY(0)=0 THEN GOSUB 5070:y=y+jump:GOSUB 5070
5060 RETURN
5065 REM **************************
5070 REM Draw cursor
5100 LOCATE 1,1:PRINT CHR$(23)+CHR$(1):REM set xor mode.
5110 MOVE x–10,y:DRAW x+10,y,1
5120 MOVE x,y–10:DRAW x,y+10,1
5130 LOCATE 1,1:PRINT CHR$(23)+CHR$(0):REM Reset graphics to normal
5140 RETURN
11000 REM Reset all function variables to zero
11010 beam=0:e1e=0: f1=0:rub=0: xy=0:tl=0: tb=0: t=0: mde$="MOVE"
11020 RETURN
12000 CLS
12002 IF beam=1 THEN mde$="BEAM"
12004 IF e1e=1 THEN mde$= "ELASTIC"
12010 LOCATE 1,1:PRINT "Jump="; jump;:REM Distance the cursor moves
12020 LOCATE 70,1: PRINT mde$;: REM Working mode selected
12030 IF d=1 THEN LOCATE 12,1:PRINT SPACE$(16);: LOCATE 12,1:PRINT "X=";x;" Y=";y;: REM Display X and Y
12040 RETURN
```

Easydraw so far

Position is displayed as a cross hair cursor
Arrow keys move cross hair
Press B to switch Beam on (Draw a line)
Press M to Move
CTRL+B to change the Background colour
CTRL+F to change the Foreground colour
CTRL+R to Return cursor back to the centre
CTRL+D to Display x and y positions

Elasting banding

Elastic banding is a technique used by most graphic aids to allow the positioning of a line. The XOR (exclusive OR) mode is used and a line drawn from the original position to the new position, the line is repeatedly drawn in the same position, the second line erasing the first giving the effect of a rubber band being stretched. The line can then be placed in any position on the screen without erasing any lines which were there before, when the correct position is found the line can be made permanent. Also included in this module is a clear the screen key press.

New Variables

- ele Elastic band On or Off (e1e=1 ON e1e=0 off).
- set Initial setting of the elastic banding.
- xf Original horizontal position.
- yf Original vertical position.

Type in the listing below with "EASY1" in memory.

```
24 REM Variable e1e (Elastic band switch) xf,yf (origin for Elastic band)
80 REM Remove keypress for speed
180 IF INKEY (58)=0 THEN GOSUB 11000:set=0:mde$="ELASTIC":e1e=1:
```

GOSUB 12000: REM Press E to switch on Elastic band F to Fix a line
190 IF e1e=1 THEN GOSUB 6000
200 IF INKEY(53)=0 AND e1e=1 AND t1=0 THEN a=xf: b=yf: set=0: GOSUB 4500: REM Press F to Fix the line from Elastic band
210 IF INKEY(59)=160 THEN CLG: GOSUB 5070: REM Press CTRL+SHIFT+W to clear screen and replace cursor
6000 REM Elastic Band
6010 LOCATE 1,1: PRINT CHR$(23)+CHR$(1): REM XOR mode
6020 IF set=0 THEN xf=x:yf=y: set=1: MOVE xf,yf:DRAW x,y, 1:REM Fix xf and yf when set=0
6030 MOVE xf, yf:DRAW x,y,1
6040 FOR w=1 TO 10:NEXT:REM a short pause
6050 DRAW xf, yf,1
6060 LOCATE 1,1:PRINT CHR$(23) +CHR$(0): REM Normal Mode
6070 RETURN

Save as "4ELASTIC"

A Look At The Listing
Line 180 Key E is used to switch on Elastic Banding.
Line 190 Use the draw routine at line 6000 if elastic is chosen.
Line 200 Key F is used to Fix the line in position. The variables a and b are set to allow the use of the beam routine at 4500 to draw the line.
Line 210 INKEY(59)=160 means that W has been pressed while CTRL and SHIFT were held down. The use of three keys avoids costly mistakes.
Line 6010 XOR mode
Line 6020 When set=0 the F key has been pressed and a line drawn. xf and yf are set to the new origin and a new line drawn in XOR mode which has no size to avoid leaving a line.
Line 6030 Draw a line from the original to the new position
Line 6040 A short pause to give a good effect.
Line 6050 Draw a line to the original which removes the line.
Line 6060 Switch off XOR graphics.

Try the new command after first saving the program as "4ELASTIC"

E To switch on Elastic banding.
F To Fix in position.
B To switch on Beam.
M To Move
CTRL+SHIFT+W to Wipe the screen.
By selecting E,B or M you switch off any previous function.

Input
Whenever keyboard Input is required in a computer program, problems arise. Error messages must be stopped as these will clear your one line of text. The keyword INPUT is never used when writing a professional program and one of the first sub-routines you need to write when you understand any programming language is your own Input routine. The input routine will be used extensively within the coming months, with this module the amount the cursor moves (jump) will be adjustable demonstrating the input routine.

New Variables

xx	The position of the input horizon tally.
l	The maximum Length of the input.
str	If the input is a number; str is set to 0. For characters str=1
lim1	Low limit of ASCII characters al lowed
lim2	High limit of ASCII characters allowed
ask$	Prompt string used for the ques tions
ans$	The answer string from the input routine.
k$	The key pressed in the input rou tine.

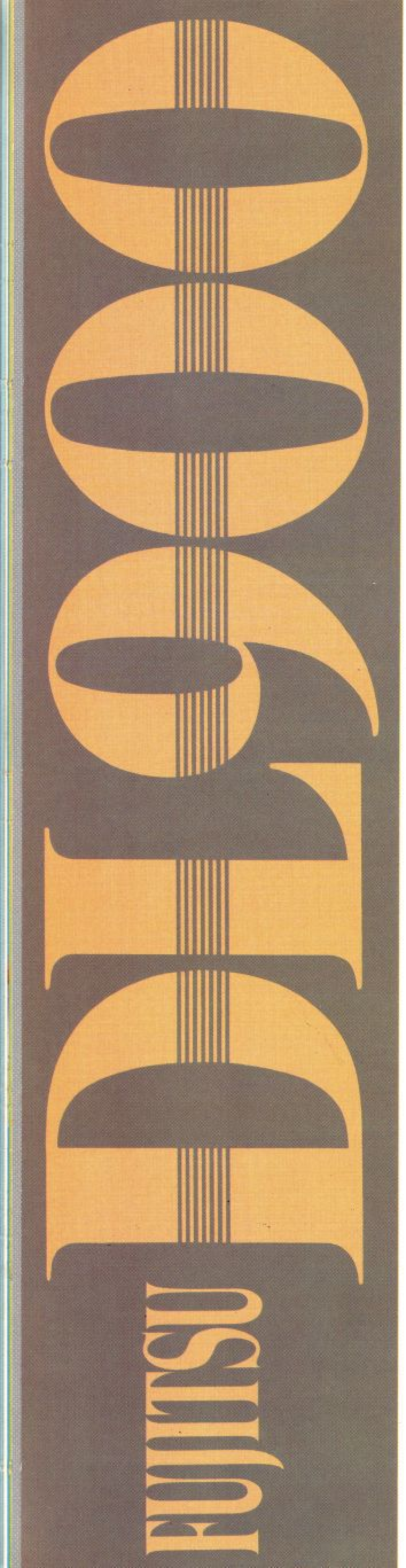
The Listing
(Ensure "4ELASTIC" is in the memory before typing in the listing)

25 REM Variables ans$ (Input string) xx (Input position) 1 (Input length) str (string if 1 numeric if 0)
220 IF INKEY (45)=0 THEN str=0: xx=12:ask$= "PLEASE ENTER THE JUMP LENGTH": 1=3: GOSUB 3000: jump=VAL (ans$): GOSUB 12000:REM Press J to change jump size. This is numeric and the str variable is set to 0. (str xx ask$ and 1 are all needed for the Input routine
3000 REM Input routine
3010 ans$="":GOSUB 12000: REM Reset ans$ to nu11 and clear status line
3020 LOCATE xx, 1:PRINT ask$+" "+CHR$ (246) + SPACE$(1)+CHR$ (247);: REM Print the question and answer space
3025 IF str=0 THEN 1im1=47: 1im2=58:ELSE 1im1=31:1im2=127
3030 k$=" ":xx=xx+LEN (ask$)+2: REM reset xx to answer position
3040 WHILE ASC(k$)<>13:REM Loop until Enter is pressed
3050 k$=" ": WHILE k$="":k$= INKEY$:WEND:REM Loop to wait for keypress
3060 IF ASC (k$)> lim1 AND ASC(k$)<lim2 AND LEN (ans$)<1 THEN ans$=ans$+k$: REM Accept any keyboard character into the string if the string is below 1. If str=0 then numbers only
3070 IF ASC (k$)=127 AND LEN (ans$)>0 THEN ans$=LEFT$(ans$, LEN (ans$)-1): REM If DEL is pressed remove a character if one exists
3080 LOCATE xx,1: PRINT SPACE$(1);: LOCATE xx,1:PRINT ans$;: Remove old string and replace with the new string
3090 WEND
3100 GOSUB 12000:REM remove information
3110 RETURN
12006 IF jump=0 THEN jump=1: REM Ensure jump exists

A look at the listing
Line 25 Additional remarks
Line 220 INKEY(45)=0 is J. str=0 means the input is numeric. xx=12 is the position of the start of the input, ask$=the prompt. 1=3 means the length of input is 3 at maximum. The sub-routine at 3000 is the input routine which will return a string called ans$ the jump is then set to the VALue of ans$. The routine at 12000 resets the status line.
Line 3000 The start of the input routine.
Line 3010 Set ans$ to null and clear the status line using 12000
Line 3020 Display the prompt string and answer space with characters before and after the answer space.
Line 3025 Set the ASCII codes for numbers or all keyboard characters 0=47 1=48 etc.
Line 3030 Reset xx to the answer position. xx was the prompt ask$ position.
Line 3040 Loop until Enter is pressed.
Line 3050 Wait for a key press. k$ will be that keypress.
Line 3060 Check the limits of the ASCII code restrictions. If k$ is between the limits add k$ to ans$
Line 3070 Check for the Delete key ASCII code 127 and if ans$ has characters within it delete the last one.
Line 3080 Remove the old answer and replace with the new.
Line 3090 The end of the While loop
Line 3100 Remove status line information
Line 3110 End of sub-routine.
Line 12006 If someone has input a jump figure of 0 change it to 1 as no movement will be possible.

Save the program as "EASY2" and "RUN" to see the result.

By pressing J you will be prompted to input a new jump size. You can now draw boxes and lines to specific sizes. The size is in pixels.



GOING JAPANESE

John Taylor takes a peek at the latest in hi-res, hi-speed, low-cost printing from Fujitsu

To those of you not overly acquainted with the latest developments in hi-tech printing, or with the fast growing Cottage Technology industry (working from home on your CPC, that is), a Footprint will probably not mean an awful lot to you, apart from something that you don't put on a stretch of freshly laid cement.

However, all of those completely at home with the latest printing phraseology will know that a small footprint means more glorious space for your desk-litter.

What a footprint actually is, is the overall size of your new printer, allowing you to allot that special space for it before you go out and collect your gleaming new toy.

'Gone are the days of the leviathan paper grabber, as most

modern printers are now specifically designed with the desktop user in mind, with the new DL900 from Fujitsu being no exception.

Looking decidedly old-fashioned at a first glance, with its quaint 'sit up and beg' style of design, the DL900 combines all of the latest features in printing technology in a relatively small space.

The actual dimensions of the machine are 188mm x 460mm x 250mm, with a low noise level of just 52 decibels and, weighing in at a featherlight 6kg, the DL900 is a fairly unobtrusive office companion, until you call it to order.

Targetted initially for beginners in the PC, Atari and Amiga environments, this superb 24-pin entry level impact printer will be equally suited to CPC users, featuring a Centronics interface as standard and an RS-232C option, although the set-up may not be as simple to install as the PC version, for which a free on-line set-up program, called DLMENU, is provided.

Nevertheless, with Epson, IBM and Fujitsu DPL24C features as the three emulations, the DL900 can be seen to be a pretty versatile workhorse.

Indeed, at a retail price of under £300, Fujistu's latest product should become an invaluable workhorse for the low-volume business and home user. Although its size is that of a conventional 80 column printer, the DL900 can offer 110 columns of printing capability, with options to handle envelopes, labels and a variety of other media.

Equally at home with cut sheet and continuous paper, the machine also features a clever landscape printing capability, paper park and zero tear off, with true versatility offered with the friction feed platen and bi-directional rear-fed tractor.

For those of you expecting to handle slightly irregular and heavier workloads, an automatic cut sheet feeder is provided as standard, allowing for sheets to be fed in without removing continuous forms, with single or double bins available as an option to cater for extra capacity.

Despite the lightweight proportions of the machine, a solid test run proves its performance as that of a true thoroughbred, allowing for virtually hassle-free production of both draft letters and high quality print jobs. With an excellent graphics resolution of 360X360 dpi, the results are well worth looking into.

In the speed stakes, the DL900 proves itself to be no slouch either, with actual running rates coming very close to the stated 180 cps in draft and a pretty nifty 60 cps in letter mode. While the input buffer is user selectable, up to 24KB, a fair amount of work can be booted out

at any given time, extremely important for those of us with deadlines to face up to.

Moving up the scale to the higher qualities of the DL900's output, the machine also features some excellent word processing capabilities. With Outline, Image Overlay, Overscore, Underscore, Superscript, Bold overprint, Shadow, Justify, Italics and Multiple height and width amidst its impressive options, the machine's configuration makes it compatible with the Fujitsu Creative Faces software package, working in conjunction with Windows to create a true WYSIWYG screen and print output for up to 35 different PostScript compatible fonts.

For those of you with the capability, the 13 font configuration can be bought separately for a mere £75, with the full 35 font package coming in at a slightly more costly £175.

Coming back down to earth for most of us, the DL900 does have seven resident fonts to play around with. The choice of Courier 10, Pica 10, Boldface PS, Prestige Elite 12, Compression, Correspondence and Draft should give more than enough variety for most home users, without having to pay out for too many add-ons.

All in all the specifications add up to an exceptionally impressive sounding machine and, for its price, that is exactly what the DL900 is. As a 24-pin, wire dot matrix printer, the machine is reliable, versatile and extremely hard-wearing.

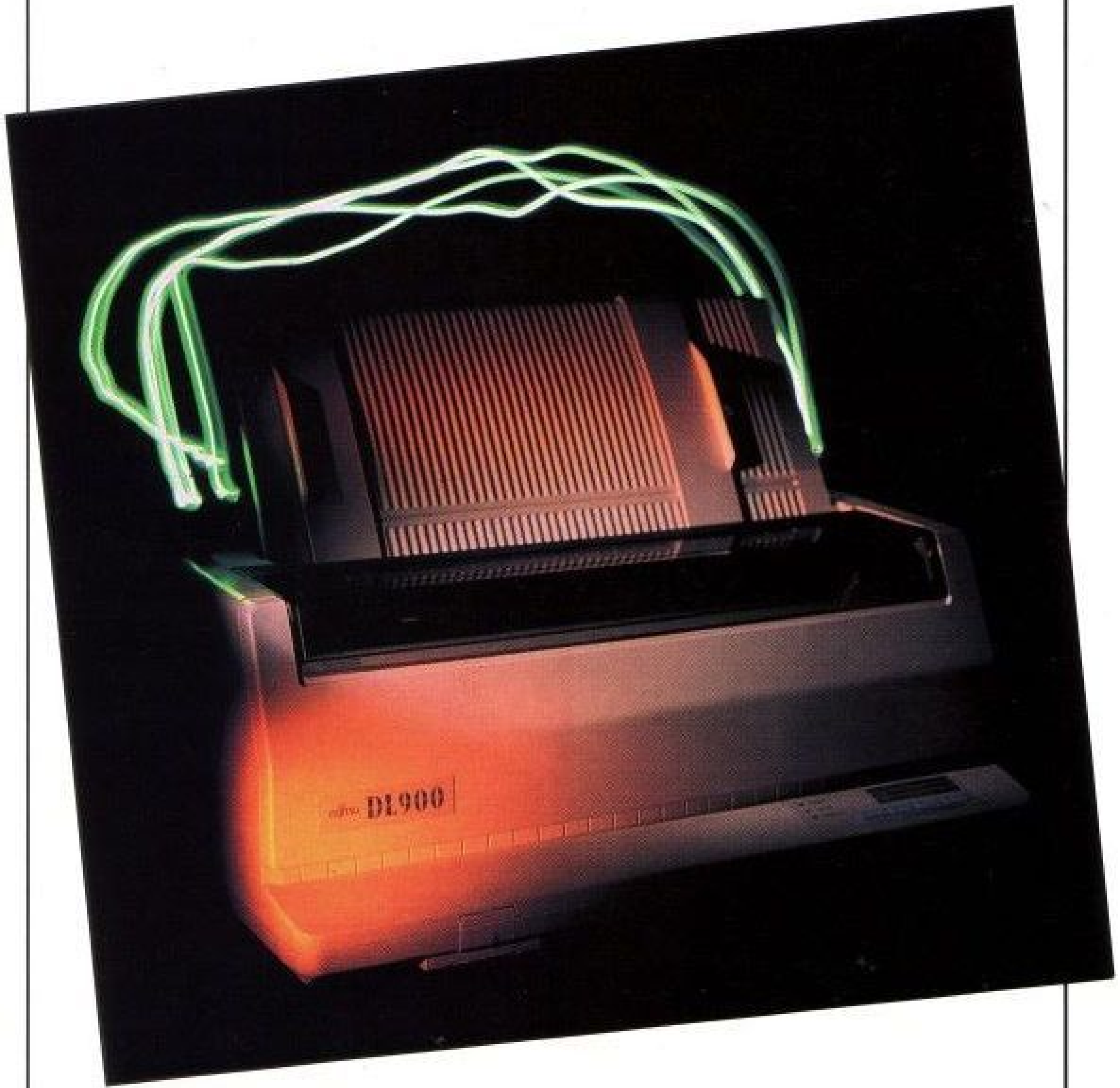
Nobody can ever guarantee that a machine won't go haywire every now and again, but with a mean time between failures rate of more than 6,000 power-on hours at 20% duty cycle, you can be pretty confident in your new printing power.

Add to that the average head life of up to 200 million strokes for each wire and a ribbon life of up to 3.5 million characters and you should be able to print out your latest masterpiece without fear of stoppages.

Despite the price tag of just under £300, there is no set retail price for the DL900, so your best bet is to scour the hardware shops to get your best price, which could be as little as £250, a very small price to pay for top quality printing.

Whether you use a printer for your business at home, or just as a means to produce letters and private files, Fujitsu's latest entry on the market is equally suitable for beginners and more professional users alike.

Unlike many of the makes on the market to date, the machine's manual is actually quite readable and is backed up by Fujitsu's excellent after-sales service.



In short, if you're looking for a new printer and you've got a little cash to spare in these lean times, taking the new DL900 for a test run might be just what the Doc ordered!

Fujitsu DL900 24-wire dot matrix printer
Cost: Under £300
Contact: Fujitsu Europe Ltd
Tel: 081 573 4444

Technical Specifications
Printing speed: Draft - 180cps (12cpi), Letter - 60cps (12cpi)
Resolution: 360 x 360 dpi
Resident fonts: Courier 10, Pica 10, Boldface PS, Prestige Elite 12, Compression, Correspondence, Draft
Input buffer: up to 24 KB, user selectable
Print Line: 132 chars @ 12 cpi, 110 chars @ 10 cpi
Line feed speed: 110 ms @ 6 lpi
Form feed speed: 2 ips
Number of copies: 4
Emulation: Fujitsu DPL24C PLUS as well as IBM Proprinter XL24 and Epson LQ-2500/2550
Dimensions: 188mm x 460mm x 250mm
Weight: 6 kg
Noise level: 52 dB(A)
MTBF: 6,000 hours

SURGERY HOURS

Doctor Watson opens his doors to the public domain once more, with a fistful of remedies to hand out.

Ah, a long queue of troubled patients awaiting the ACU surgery I see. Well, don't just stand there loitering in the corridor, come on in, don't be shy, that's it...wipe your feet on the way in. Now what seems to be the trouble?

First to unburden him/herself is A. Floyd from Staffordshire (anybody know what a floyd is?):

"Help me please grovel, grovel. At this present time I have only three problems and would be very grateful if you could help me solve them.

Recently I was looking through my back issues of ACU when I came upon Nick Hottun's wonderful machine code sound digitiser. I would find it extremely useful if you could print all the available memory areas for recording samples.

Now on to a problem that has been annoying me for months (yes I know I should have written to you earlier), the fact is that I cannot get graphics output for my CPC464 onto my DMP3160 printer. Could you please tell me how?

Lastly I, like many other readers of your wonderful magazine want to get my mitts on a Firmware Manual, so please could you give me some ideas as to where to get one. Thank-you. P.S. Please could you send me a BLANK tape as I have filled all mine with programs, listings, and 10-liners from your magazine.

I'm afraid I couldn't track down a copy of the issue in question, but working out which areas of memory can be used for storing samples should be relatively easy.

Firstly, PRINT HIMEN (before running the program) to see the highest memory address that you may use. As for the bottom address, this will depend on the length of any BASIC programmes you have in memory. A value of &2000 should be possible. Between these two extremes there will be an area used for storing the actual machine-code program. Examine the part of the listing which reads into the machine code to ascertain the start (e.g. &8000, &9000) and the length of this area. Make sure you don't stray outside the boundaries and happy s-s-sampling.

The solution to your second problem is simply a 'screen dump' program. This will scan the image currently on your screen and send it to the printer one line at a time. Such a program was given in the September '91 ACU, but you should find many more variations in back issues of magazines.

Your last problem isn't quite so easy. The lesser-spotted 'Concise Firmware Specification – SOFT968' is indeed an elusive beast. Our beloved Editor is working tirelessly to try and gain the rights from Amsoft but you may well find a copy gathering dust in a computer shop or at a shop perhaps. A very good alternative is 'The Amstrad Whole Memory Guide' writ-



ten by Don Thomas and published by Melbourne House, ISBN 0861611993, £7.95. Unfortunately, this too may now be out of print. All I can do is wish you the very best of luck and say that should you manage to locate a copy of either book, you will not be disappointed. Personally, I look forward to your next series – 'Floyd on Firmware'! (As for your postscript, all the flattery in the world isn't going to get you a freebie, try your local W.H.Smiths!)

No. But I know a man who does
John R. Hudson, more of a hospital consultant than a patient (please excuse the continuing medical metaphor), has kindly written in with a solution for a letter that was printed a couple of issues back:

"Regarding Keith Sterrow's query about entering ESC and ↑D in Supercalc .XQT files, as the manual says, this has to be done using a word-processor.

In Wordstar/Neword, use non-document (ASCII) format and type CONTROL P[for ESC and CONTROL PD for ↑D since the prefix CONTROL P gives access to the control codes. If Mr. Sterrow doesn't have access to a suitable word-processor, but can send me a disc with the relevant files on and a printout indicating where he wants the codes inserted, I will be happy to make the necessary insertions."

Well ta very much John, I'm sure Keith is much obliged to you. It's always nice to see Amstrad users taking the time to help like-minded individuals. By means of a small reward, I'm going to send you a solid gold, diamond encrusted, 24 carat...pat on the back – well it's the thought that counts! For Keith's benefit, Mr. Hudson's address is 79 Logley Rd, Almondbury, Huddersfield, HD5 8JN.

Hold your fire
Joystick problems are plaguing Fiach Reid from Co. Donegal. He writes:

"I bought a Cheetah Star Probe 125 autofire joystick. When I got home the autofire did not work. My Dad rang the shop where I bought it and the man said that the autofire will not work on an Amstrad 464 without a special adaptor. Is this true? If so, please can you tell me where I can get one?"

This is actually quite a common occurrence with joysticks not designed specifically for the CPCs. The problem is the slightly non-standard joystick interface employed by Amstrad, no doubt as a cost-cutting measure. The most serious omission is the +5v connection which is used by joysticks to power their autofire circuits, flashing lights, and any other bells and whistles the manufacturers may have added.

I can't say I've come across an adaptor to cure the problem but it really is very simple to make one yourself. All you need is a 9 way D-plug and a matching 9 way D-socket. Solder six lengths of wire linking pins 1,2,3,4,6,8 (individually) on the plug to the same pins on the socket. Now add an extra wire to pin 8 on the plug and solder a new wire to pin 7. These last two wires should be connected to a 5v power supply (or battery), with the wire from pin 7 being -ve. Now insert the socket into your 464 and insert your joystick into the plug.

I have tried this adaptor with an autofire joystick which I own. The LEDS on it now light up (as they should) when you press fire, and flash when the autofire is engages, a sure sign the adaptor does work. However, the autofire is so fast on this particular joystick that the Amstrad seems unable to keep up. The effect is similar to when you push three keys simultaneously, or in quick succession, and a fourth letter in accidentally generated. I suppose this is inevitable when you consider that the fire button is treated as the letter 'X'.

Anyway, the point is that a lot is going to depend on the speed of your particular joystick and the games you intend to play with it. The cost of the adaptor will be about £1, so it's a fairly small gamble.

The Graduate
An interesting letter has arrived from Les Taylor of Durham:

"Well, after 5 years of reading ACU I finally get around to dropping you a line. I have a CPC6128, silicon disc, Protext, Graduate CPM+ ROMs, a couple of warning and a query regarding them. Firstly, unless Protext has actually saved a file to the silicon disc, it cannot load a file from it without hanging the machine. Secondly, the silicon disc cannot be used with Stop Press, which is a great pity, (would X-Press help?). Now for the question. I find Graduate's CPM+ ROMs a great asset as, for one thing, they automatically recognise the silicon disc and log it on as the C: drive. Do you know if they will work successfully with a 3.5 inch second drive either in normal (180k) or MEGA (8BOOK) modes?"

Well Les, one would think that a 3.5 inch drive working in standard 108K mode would be OK because, after all, it will be presenting itself to the computer as a normal Amstrad 3 inch drive. Whether or not it will work in 800K mode is a good question.

In order to make use of the extra storage space, the AMSDOS ROM is copied into a RAM chip held in the drive's interface, being patched during the process. A small software program is then run to alter CP/M and allow it to also recognise the extra space. It is this latter process which is cause for concern. Because you have CP/M stored in a ROM it obviously cannot be altered in any way. Therefore, unless Graduate have built in direct support for this sort of extra drive I fear you are going to be out of luck. If any readers have experienced this setup or think they may be able to help in some way, I will be only too pleased to pass the information on. On a lighter note Mr. Taylor, thanks for the warnings you gave and also the nice things you said about the magazine. These were not included due to the lack of space rather than the lack of modesty!

Back to Basics
Finally for this month, R.Dillon has sent in a disc containing six BASIC programs which he thinks may be of some use to those wishing to improve their programming. Mr. Dillon has included many REM statements and the programs are well structured with additional written documentation. The program includes utilities to help design characters, draw simple line pictures, and convert machine code into DATA statements; as well as games based around pontoon, a fruit machine, and those sliding tile puzzle thingies – oh you know the ones I mean!

The price of the disc is £3.50 so you can't really go wrong. Those that are interested should write to 70 Highfern Gardens, Belfast, BT13 3RE.

Well that's it for another month and don't those column inches fly when you're having fun. Keep sending in your letters. Until next time...bye!!!

The Winning Streak

Read on as the ACU Mammoth Games Creation Extravaganza multiplies itself to take in the serious stuff!

As you should all know by now, the ACU fabulous MGC competition is in full swing and we've already had some absolute corkers in our entry bag, which are keeping the ACU Crew busy until all hours of the morning in the testing room.

For all of you out there who haven't got your entries together yet, don't worry. We know it takes some time to formulate a winner, even if it is only a short program, so we generous people here at ACU have decided to lengthen the entry limit until 1992, allowing you even more time to brush up your masterpieces.

Remember, it doesn't matter if your game is a 10-liner or a mega-loader, they all count as entries, so keep them flooding in to the address at the bottom of the page, as the fully paid weekend to Alton Towers is still well and truly up for grabs, along with masses of other excellent software and hardware prizes.

Ok, so you've got yourself sorted on the game front, but how about this for another scorcher! To tie in with the ACU MGC extravaganza, we now proudly announce a brand new sister competition, as we hunt for the best piece of homegrown serious software.

Whatever you'be been working on at home, whether it's an add-on widget, or an extremely clever utility, we at ACU want to know about it.

Get to work on your own original serious piece of software, long or short and send it in to the address below to be in with a chance of winning even more epic prizes.

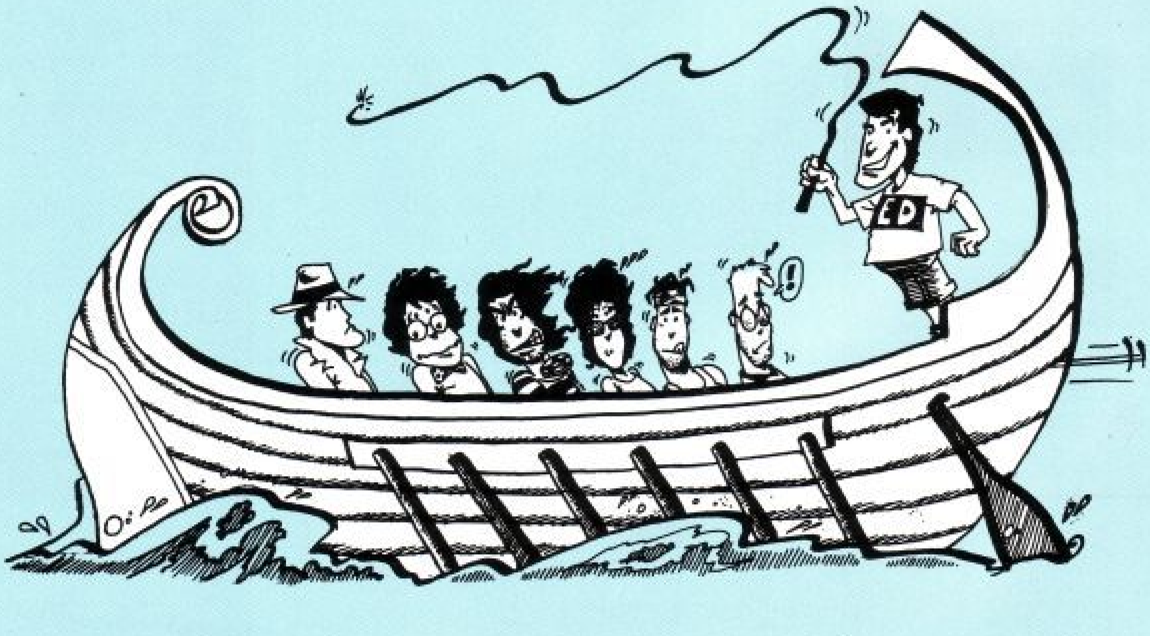
Running concurrently with the games competition, the serious entry which is deemed by the ACU Crew to be the very best, will win its lucky creator one of the fabulous new Brunword ROM units, fresh from Peter Brunning's workshop.

Keep your eyes peeled for next month's issue of ACU to get the full lowdown on this brilliant piece of software, then get programming yourself to get your hands on it.

The all new ACU SERIOUS SOFTWARE competition has been set up due to popular demand, so we'll be expecting some real gems in the post very shortly.

Again, there's no need to hurry, as the competition will run well into early 1992 so, take your time and perfect your piece de resistance, which the ACU Crew are just dying to get their mitts on.

When you think your entry is complete, just send it in, along with the relevant coupon below and then sit back and wait until the final outcome is announced. Each entry will be acknowledged by post or telephone, so don't forget to include your address and telephone number on your entry, as well as a brief description of the program. Get programming and good luck, all of you.



ACU MAMMOTH GAMES CREATION EXTRAVAGANZA

Send entry to:
ACU MGC, Sunnyside Cottage,
Carluddon, St. Austell,
Cornwall Pl26 8TY

Sender ....

Address ....

....

....

Tel ....

Name of Game ....

ACU SERIOUS SOFTWARE COMPETITION

Send entry to:
ACU SSC, Sunnyside Cottage,
Carluddon, St. Austell,
Cornwall Pl26 8TY

Sender ....

Address ....

....

....

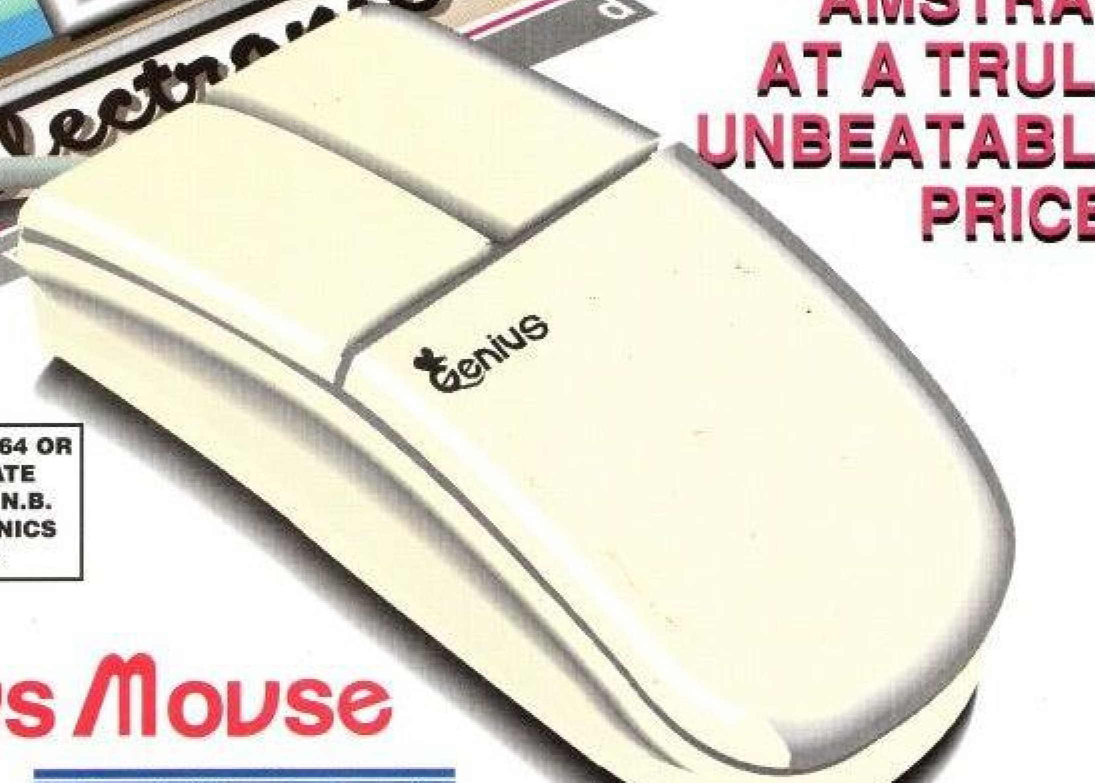
Tel ....

Name of Program ....

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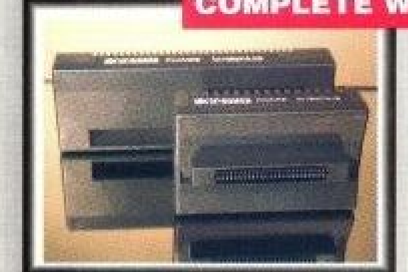
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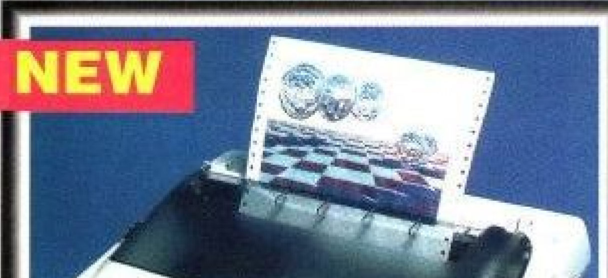


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TOPSY-TURVY WORLD

In which Mr H gets another shock to his system from Mr D.



This Dizzy character gets everywhere, doesn't he? And I mean everywhere! Just yesterday morning at breakfast, I'm sure I saw him lurking there in my bowl under the third flake from the left.

You should have seen the Postie's face when he caught me bashing individual flakes on the kitchen floor, in a desperate attempt to pin the little rogue down.

Anyway, to preserve my sanity and keep my postie calling, I've decided to bow to popular demand once more and fill you in on yet another comprehensive Dizzy formula. Be warned, this one really gives you the lot for Fantasy World Dizzy and it comes courtesy of Peter Mardle of Basingstoke, who obviously knows Dizzy on a personal basis. Here goes!

HINTS & TIPS

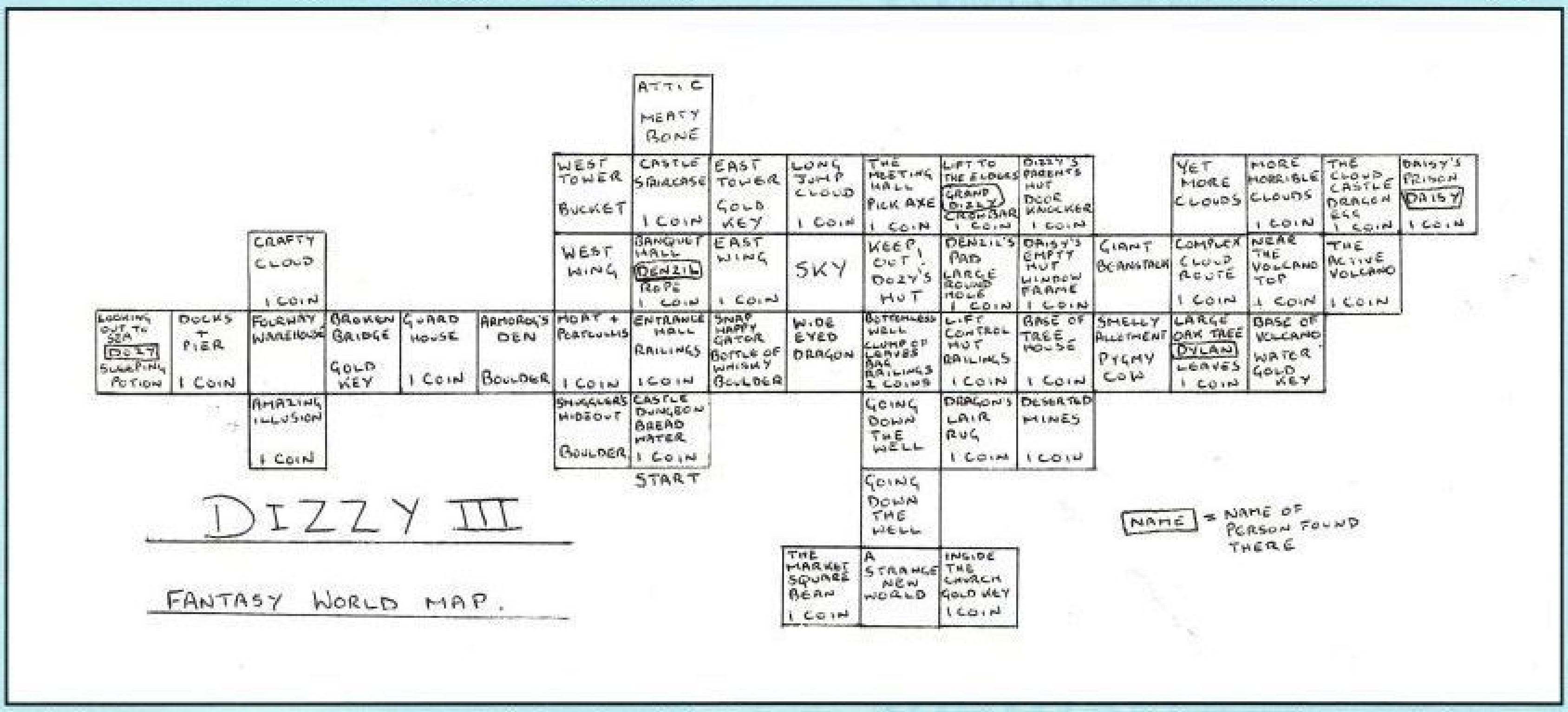
1. Use keys to turn lifts on as soon as possible.
2. At Guard House, go past the Dizzy Bird when it is above the clouds.
3. To get to the Amazing Illusion, stand on the far left of the case and jump left.
4. To get to the Crafty Cloud, stand on the far right of the Green cases and jump right.
5. To get to the Amazing Illusion, go around the right hand side of the screen.
6. Do not take the original Dragon's Egg out of the nest.
7. Make an established route through the clouds.
8. Watch out for the hole in the pier.
9. Try and find coins hidden behind leaves and railings.
10. In Daisy's prison, take the coin before lowering Daisy.
11. To reach the Long Jump Cloud, jump from the very left of the Walkway, beneath the Meeting Hall.
12. Always walk on the left side of the Long Jump Cloud.
13. Keep trying.

What about that then folks? Oh, and just to round off, take a peek at the map as well, to make sure you know just exactly where you are at all times.

I'd say that was pretty comprehensive, wouldn't you? It's also pretty space consuming as well, unfortunately, which means you'll have to wait until next month for more goodies now.

However, just to finish off, try pressing P6A together in the pause mode of Killapede and you should find your lives increasing by one each time. Don't press it for too long though, as you'll end up going back to zero. Ooooer!

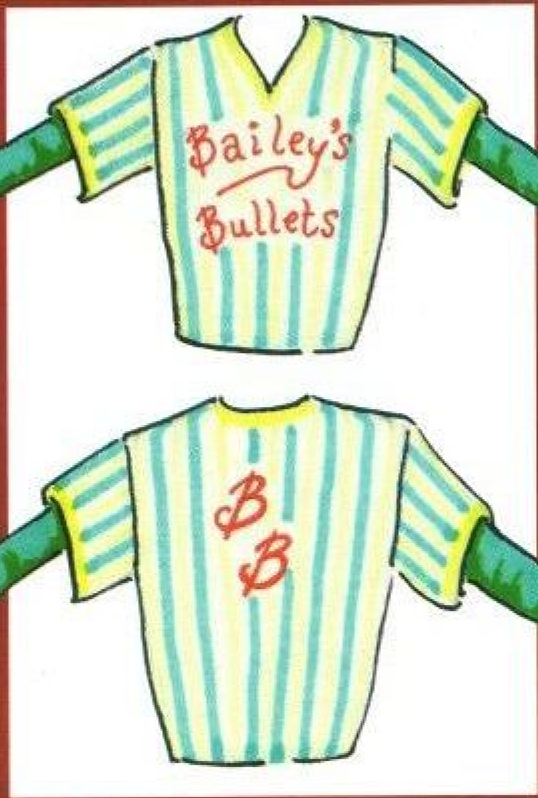
See you next month for some more hackery-pokery!



ITEM	USE	LOCATION
Sleeping Potion	Puts wide eyed dragon to sleep in castle dunegon	Looking out to sea (Dozy has it)
Boulders X3	Place in water at Broken bridge to raise the water level	1. Smugglers' den 2. Snap Happy Gator 3. Armorog's Den
Bucket (empty)	Fill at Base of Volcano and use to make bean grow	West Tower
Meaty Bone	Place in Armorong's den after retrieving boulder	Attic
Rope	Use to tie up Snap Happy Gator's mouth	Banquet Hall (Denzil has it)
Railings	Used to hide coins	Entance Hall Bottom less Well Lift Control Hut Treehouse
Clumps of leaves	Used to hide coins	Bottomless Well Large oak tree
Bread	Give to rat in castle dunegon	Castle Dungeon
Water	Use to put fire out	Castle Dungeon
Apple	Give to Troll	You have it at start
Gold Key X4	Use to turn on lifts at lift control hut	East Tower, Broken Bridge, Inside Church, Base of Volcano
Pick Axe	Use to break rocks in deserted mines	The Meeting Hall
Crowbar	Use to prize top off Bottomless Well	Lift to the Elders (Grand Dizzy has it)
Rug	Use to cover daggers in Daisy's prison	Dragon's Lair
Dragon's Egg	Place in Dragon's Lair	The Cloud Castle
Bean	Plant in smelly allotment	Market Square (Shopkeeper has it)
Bottle of Whisky	No use (but get drunk)	Snap Happy Gator
Bag	Lets you hold more	Bottomless Well
Window Frame	Use to hide a coin	Daisy's empty hut
Large Hole	Red herring (no use)	Denzil's pad
Pygmy Cow	Give to shopkeeper for bean	Smelly Alottment



N H J LORRAIN



SANDY BAILEY



HOME RUN!

Pin back your ears, folks and get set to find out the lucky winners of our fabulous Strike-Out competition from the August issue.

Once again, the quality of the entries was staggering and the ACU crew certainly took some time in sorting out the winners and runners-up from the rest.

Sorry you couldn't all walk off with a prize, but to find out who did, read on:

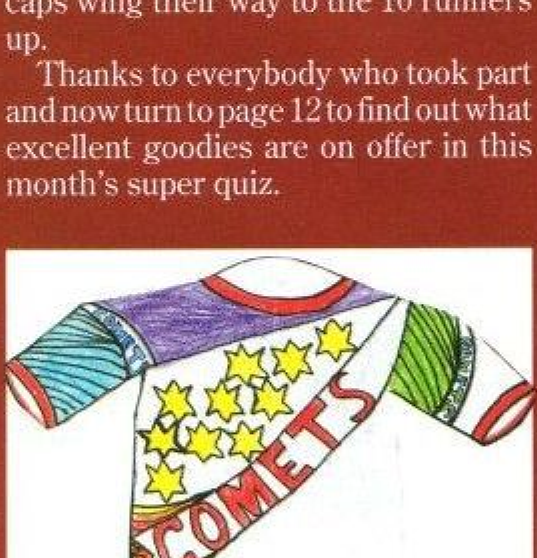
The fiver winners of the Baseball bat and ball are: Craig Smith of Aberdeen, Scotland; Johnathan Bellian of Northallerton, North Yorkshire; Michael Craig of Dumbarton, Scotland; N H J Lorrain of Bugle, Cornwall and Sandy Bailey of Herongate, Essex.

Cast your eyes over the winning entries to see the quality for yourselves, and keep your eyes on the post as 10 fabulous inflatable bats and baseball caps wing their way to the 10 runners up.

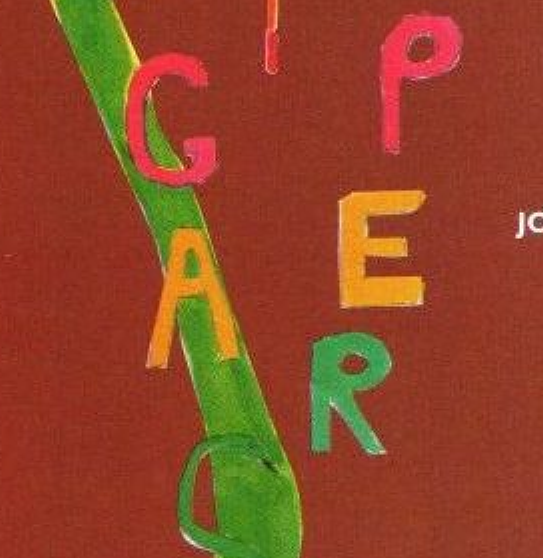
Thanks to everybody who took part and now turn to page 12 to find out what excellent goodies are on offer in this month's super quiz.



JOHNATHAN BELLIAN



CRAIG SMITH



MICHAEL CRAIG

BUYING A MODEM

PEP up your modem knowledge with Nick Hutton, it's as easy as HST!

You have decided that you would like to buy a modem. You have looked through lots of magazines full of adverts and the clear picture of what you needed is now just a dim and distant fuzz amid the high tech compression and widely supported standards. It is more than likely that you are, by now, totally confused.

When you look through one of the current computer magazines or the vendor's sales information you will be almost immediately confronted with a list of modem speeds. These will probably not be in the "baud" format, but in the rather confusing "V" standard format. All these numbers are just another way of representing what speeds the modem can cope with or what agreed standards the modem complies with. For an explanation of just what all these numbers mean see the glossary at the end of this article. As well as the "V" range of speeds there are quite a few semi-custom speeds which some companies have introduced to speed up their range of modems.

These days, most modern modems will offer a base range of standard features. These are likely to include auto dialling and auto answering, simply a feature whereby the modem can dial the number itself and is also able to detect incoming calls and answer them without prompting from the user. Auto dialling is really essential these days as it doesn't add much to the price and saves you having to pick up a phone on the same line (which may be in another room) and dial the number of the remote system manually. Auto answer is not really essential unless you intend using your model and computer as host system, that is one which other users or maybe just yourself can call up, like a bulletin board or message service.

No matter what computer you will be using with your newly purchased modem you will need some software. Luckily most computers have a good deal of quality software in the public domain. The CPC is very well catered for in this department. I suggest that you dust off your CP/M disks as you will find that most comms programs for the CPC are written in CP/M. This is mainly because most of them are quite old, no bad thing because it means that there are few bugs and a lot of support among other users. Many problems can arise if your modem has been misconfigured or is not sent a particular command which it needs in order to work properly. You should spend time learning your comms software or terminal emulator inside out. You will need to know it well when you get problems, and believe me you WILL get problems at some point in time.

Your communications software or terminal emulator is a very important part of you setup. In simple terms it acts rather like an intelligent translator between you and the remote computer. For a more detailed explanation of just what a terminal emulator is, then why not have another look through the comms section of the September issue.

These days almost all new modems use the Hayes or AT command set. This is just an agreed standard for modem commands set up by the comms giant Hayes some years ago. There is a fair bit of computing history behind the Hayes command set. Basically, Hayes was just a big corporation who became so popular they devised their own standards of communications and the rest of the world followed their example. However, today many modems feature so many "enhancements" and modifications to the basic command set, that they are anything but simple to use. I myself own a 2400 MNP 5 modem which featured so many add on commands that it was three days before I got it working to my satisfaction. Once again the message is to get some first hand experience or, if possible, speak to some one who has already bought the modem for themselves. Why not ask the shop which particular comms package they recommend or put a few messages out on some bulletin boards, someone, somewhere must have one!

Now, there is always a big debate about just how fast a modem you actually need. You must of course make up your own mind but I would advise you to think carefully before purchasing a modem, remember you cannot upgrade with a plug in expansion later, a modem is for life, not just for Christmas. Buy in haste, but repent at leisure.

It is at this point that you should ask yourself just what you intend to use you modem for, make a list of the services which you will be calling most. Is it mainly casual use for e-mail and possibly BT's phone base? If so, then a slow speed, bottom of the range modem will be fine, or will you be using bulletin boards and conference areas like CIX and BIX? These big bulletin boards seem to have endless amounts of cash to buy the latest super modems.

The old comparison of modem speeds related to phone bills has been done many times before and I won't bore you with the data, but if you intend getting some frequent use from your modem and will be transferring files then obviously speed means cheaper phone bills. While on the subject of reducing your bill, if you call late at night and read as much of your mail offline as possible then you shouldn't be too alarmed by your first 'modem bill'. The golden rule is to do your message replies and reading offline. Logon, upload your message, check out any news and then logoff. If you will be making some long distance calls then perhaps a Mercury account may be a viable option, it really does save you money in the long run, why not ring them and ask for details?

And now onto the actual definition of the various modem speeds and what they really mean in simple terms. When you look through the ads you will be confronted with a whole list of speeds and standards. You will find some modems which offer the 300 baud speed, these are usually very old and not a good idea unless you only intend to write e-mail. There is also the 1200/75 standard, this is a rther strange split

baud rate and from experience, I know that the large difference between transmission and receiving speed plays havoc with some computers and RS232's, the timing algorythm gets out of sync and the result is scrambled data.

One of the most popular habits of modem vendors is to claim incredible speeds on transfer, when you actually examine what they are quoting it is a figure derived with expensive data compression. There are a few problems with these sort of claims. The method of data compression which that modem uses may be old or poorly supported, in which case if the remote computers modem doesn't have that sort of compression as well then there will be no speed increase at all. Also, it is highly likely that these speed tests are done using large text files on a crystal clear phone line. Text contains lots of spaces and repetitions and so is great for compressing, it squashes right down, also some graphic screens can be shrunk down to a fraction of their normal size. But, if you try to send an archived file or one which is already quite well compressed then the file may actually grow as the compression hardware adds checksums and information block headers to the file.

As I said before, there are quite a few custom standards around today which are supported to varying degrees by different sorts of onlne services. A brief explanation of the main types now follows, I know I've missed a few but these are the more common ones.

CSP: is the Compucom speed protocol. Compucom are a large company which sell a huge range of modems and therefore are found in most countries. In my opinion this form of data compression is not really that up to date and so isn't worth paying much for.

HST: This is a standard for very fast transmission of data. It is quite well supported and used on many online systems in particular bulletin boards. The most popular HST modem is the Miracom dual standard HST. Miracom offer a very good discount to sysops and so have quite a following. Some people feel that the HST standard is fast becoming obsolete due to the addition of V32 and V32 BIS standards, I would disagree. There is a lot of life left in this 14400 baud standard yet!! These modems generally have a high REN (see end of article) so watch out.

LAP-M: This is quite a modern protocol and is used in many newer modems. It is usually incorporated into the architecture of most V42 modems and as such isn't that cheap. However, V42 is a good idea as these modems can sense what sort of data is being sent, if it detects compact precompressed data it won't bother trying to compress it even more. This standard can be found in the rather expensive Hayes Smartmodems.

PEP: This is a transmission standard mainly used by the Dowty Trailblazer modems and so isn't cheap. It is found in high speed good quality modems and if you can afford it and will use it, it is a good buy.

V42: This is a standard incorporating both MNP level 4 and LAP-M features. It is really a very good buy and not too expensive.

MNP: Microcoms network protocol is probably the most popular form of data manipulation and compression. It has been around for some time now and has progressed from simple error checking to complex compression. This standard has had so many additions that I think it is worth some time explaining the different levels of MNP operation or levels.

MNP: is a data communications protocol for full duplex error free communication over an ordinary voice grade telephone line. The protocol performs error detection and correction. Error detection is performed through the use of the common cylic redundancy check (CRC). Error correction is performed through the automatic retransmission of data. The initial handshake uses an asynchronous start-stop format to establish a reliable MNP link. Several service classes are implemented to provide for varying levels of compatability. Commonly, classes 2 through to 5 are supported on most modern modems of 2400 baud or above.

When an MNP class five link is established the data terminal should operate at a higher rate (typically 9600) than the connection rate (1200 or 2400 bps). The DTE continues to transmit and receive data sychronously, but the modem may transmit or receive data using asynchronous (service class 2) or synchronous framing techniques (service class three of four).

Terms to watch out for

Dealers in modems tend to drop to some sort of coded language at the first opportunity, this can often be very hard to decipher but there now follows a short and simple guide to the peculiarities of this strange language.

Asynchronous: Transmission whereby, the timing signals are sent among the actual data, so that both modems are communicating at the correct time.

If the systems were to get out of sync then that data would be minced.

Synchronous: The sender and receiver are synchronised so that no timing signals need to be sent in the data.

REN-Ringer equivalance number: All phones and faxes have a REN. It is a bit like a guide to the voltage, each appliance will require to make it ring when there is an incoming call. The sum of all devices on one phone line, including extensions should not exceed 4. If it does your phone may not ring and you must unplug something or buy an expensive repeater (booster box).

Quad: This is a sort of short hand for modems which support the V21, 22,22bis, and 23 standards.

V21: This is the slowest standard for data transmission. It will allow for data to be moved at a rate of 300 bps in each direction.

V22: A standard which although quite old is still common with many online systems and company services. It allows transmission of 1200bps in each direction.

V22BIS: This is a very common standard and can really be considered as the most useful of the quad speeds. It is very well supported and when coupled with a decent level of compression, can give a very good data throughput. It supports 2400 bps in each direction.

V23: This is a rather strange transmission standard supported by a few online services like BT's phonebase. It offers 1200 bps in one direction and 75 in the other.

V25Bis: Another standard for modem commands, not nearly as popular as the Hayes command set.

V32: A speed offering 9600 bps in each direction. The price of this standard is coming down fast and it offers an excellent data throughput. V32 is well supported and will only grow in popularity.

V32Bis: An updated V32 standard giving 14400 bps in each direction.

V42: An excellent error correcting standard which incorporated both LAP-M and MNP4.

V42Bis: A data compression system which may increase throughput by up to 70%, depending of course on the data sent.

That just about concludes this guide to buying modems. May your journey into the world of communication be error corrected.

CONNECT4

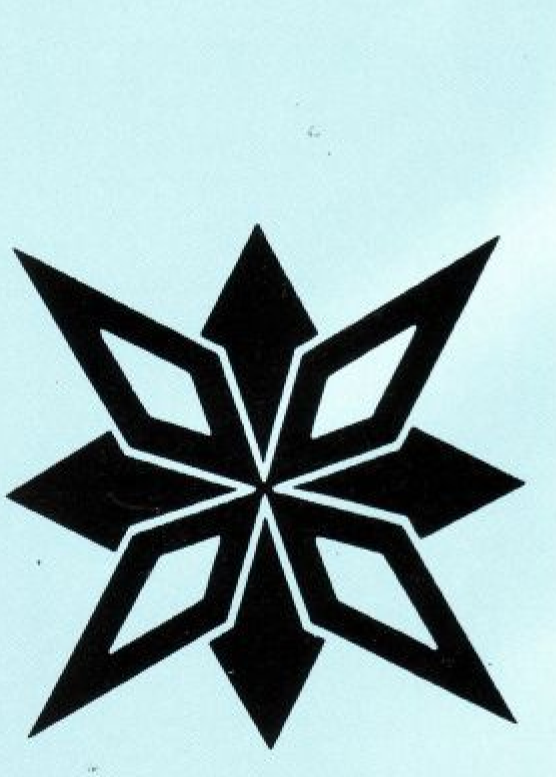
BY ROBIN GILBERT

Well, we should all know what this excellent game is all about. That's right, strategy and getting your four in a row on the board before your opponent does. You don't have to type in the superb instructions with this one but, if you do, you'll certainly get a better insight into the playing scenario.

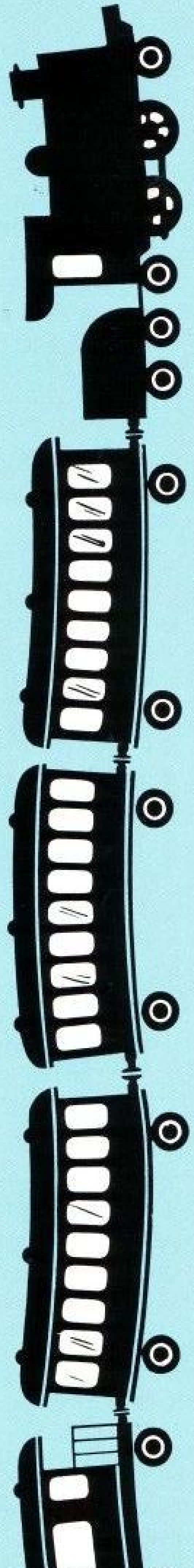
Choose a friend, run the proggy and get set for hours of endless fun trying to outdo your partner at all times.



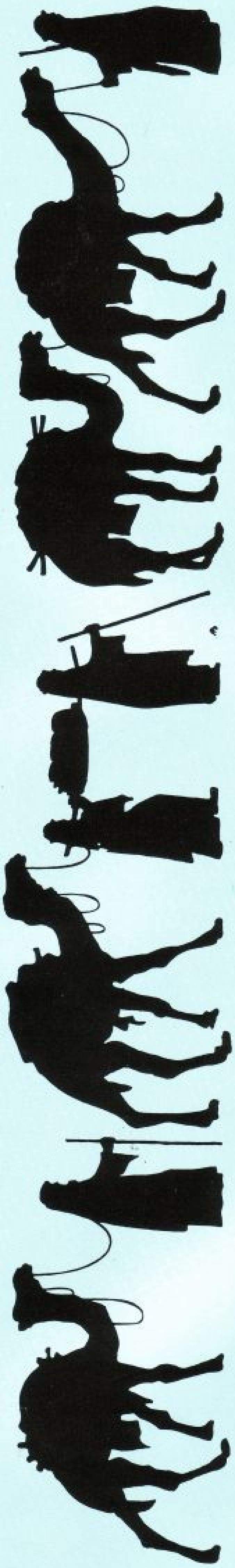
```
10 ' ** CONNECT 4 **  (C) 1991 Robin Gilbert
20 SYMBOL AFTER 143:DIM board(7,6)
30 INK 0,0:BORDER 0:MODE 1
40 '
50 RESTORE 80:FOR f=144 TO 155:FOR g=1 TO 8:READ d
(g)
60 SYMBOL f,d(1),d(2),d(3),d(4),d(5),d(6),d(7),d(8
)
70 NEXT g,f
80 DATA 0,0,0,0,1,3,7,15,0,31,127,255,223,159,255,
255
90 DATA 0,248,254,255,251,249,255,255,0,0,0,0,128,
192,224,240
100 DATA 31,59,59,51,51,59,59,31,0,127,127,127,127
,127,127,0
110 DATA 191,191,183,183,183,128,247,247,248,220,2
20,204,204,220,220,248
120 DATA 15,7,3,1,0,0,0,0,255,255,159,223,255,127,
31
130 DATA 0,255,255,249,251,255,254,248,0,240,224,1
92,128,0,0,0,0
140 cir$=CHR$(144)+CHR$(145)+CHR$(146)+CHR$(147)+C
HR$(10)+STRING$(4,8)
150 cir$=cir$+CHR$(148)+CHR$(149)+CHR$(150)+CHR$(1
51)+CHR$(10)+STRING$(4,8)
160 cir$=cir$+CHR$(152)+CHR$(153)+CHR$(154)+CHR$(1
55)
170 WINDOW#1,1,40,1,3:PEN#1,1
180 GOSUB 700 'Introduction (Omit this line if you
 do not want introductions)
190 '            :: main loop ::
200 ERASE board:DIM board(7,6)
210 CLS:GOSUB 620
220 play=1
230 PAPER 0:PEN#1,play:LOCATE#1,1,1:PRINT#1,"Playe
r";play;"to move."
240 PRINT#1,"   Please select [ 1-7 ]"
250 i$=INKEY$:IF i$="" THEN 250
260 sel=VAL(i$):IF sel<1 OR sel>7 THEN 250
270 FOR f=6 TO 1 STEP -1
280 IF board(sel,f)=0 THEN 320
290 NEXT
300 IF f<1 THEN CLS#1:PRINT#1,"INVALID MOVE.This l
ine is full"
310 WHILE INKEY$="":WEND:CLS#1:GOTO 230
```



```
320 board(sel,f)=play
330 PEN play:LOCATE 7+(sel-1)*4,7+(f-1)*3:PRINT ci
r$
340 '           : check for a win :
350 FOR f=1 TO 4:FOR g=1 TO 6
360 IF board(f,g)=play AND board(f+1,g)=play AND b
oard(f+2,g)=play AND board(f+3,g)=play THEN winfla
g=1:GOTO 550
370 NEXT g,f
380 FOR f=1 TO 7:FOR g=1 TO 3
390 IF board(f,g)=play AND board(f,g+1)=play AND b
oard(f,g+2)=play AND board(f,g+3)=play THEN winfla
g=2:GOTO 550
400 NEXT g,f
410 FOR f=1 TO 4:FOR g=1 TO 3
420 IF board(f,g)=play AND board(f+1,g+1)=play AND
 board(f+2,g+2)=play AND board(f+3,g+3)=play THEN
winflag=3:GOTO 550
430 NEXT g,f
440 FOR f=7 TO 4 STEP -1:FOR g=1 TO 3
450 IF board(f,g)=play AND board(f-1,g+1)=play AND
 board(f-2,g+2)=play AND board(f-3,g+3)=play THEN
winflag=4:GOTO 550
460 NEXT g,f
470 '
480 FOR f=1 TO 7:FOR g=1 TO 6
490 IF board(f,g)=0 THEN 520
500 NEXT g,f:CLS#1:PRINT#1,"Grid is full.A draw."
510 WHILE INKEY$="":WEND:GOTO 190
520 IF play=1 THEN play=2 ELSE play=1
530 GOTO 230
540 '
550 '
560 CLS#1
570 PRINT#1,"Win for player";play
580 IF winflag=1 THEN PRINT#1,"      HORIZONTAL" EL
SE IF winflag=2 THEN PRINT#1,"      VERTICAL" ELSE
IF winflag=3 THEN PRINT#1,"      DIAGONALLY"
590 WHILE INKEY$="":WEND
600 GOTO 190
610 END
620 '           :: DRAW THE GRID ::
630 PRINT CHR$(22);CHR$(1)
640 GRAPHICS PEN 3:FOR f=0 TO 15:MOVE 44,f:DRAWR 5
52,0:NEXT
650 FOR f=96 TO 544 STEP 64:MOVE f,16:DRAWR 0,320:
NEXT
660 FOR f=16 TO 304 STEP 48:MOVE 96,f:DRAWR 448,0:
NEXT
670 LOCATE 6,5:PRINT"  1   2   3   4   5   6   7
"
680 RETURN
690 '
700 '   :: INTRODUCTION ::  (Not Compulsory to Typ
e in!!)
710 INK 0,0:INK 1,0:INK 2,0:INK 3,0
720 PRINT CHR$(22);CHR$(1);
730 PEN 2:FOR f=1 TO 25:LOCATE 1,f:PRINT STRING$(4
0,203);:NEXT
740 PEN 1:LOCATE 16,2:PRINT"CONNECT  4"
750 PEN 3:LOCATE 1,5:PRINT"       A GAME FOR 2 PLAY
ERS"
760 LOCATE 1,7:PRINT"        CONNECT 4 IS AN ABSORBI
NG AND      CHALLENGING GAME OF VERTICAL STRATEGY
```



```
 THAT'S EASY TO LEARN AND FUN TO PLAY.   RULES AR
E SIMPLE."
770 PRINT"      EACH PLAYER TRIES TO BUILD A ROW
 OF 4 PLAYING PIECES IN THE FRAME -      HORIZONTA
LLY,VERTICALLY OR DIAGONALLY   WHILE TRYING TO PRE
VENT HIS OPPONENT    FROM DOING THE SAME.SOUNDS EA
SY,BUT"
780 PRINT" IT'S NOT!THE VERTICAL PLAY OF THIS
 GAME REQUIRES THE PLAYER TO THINK       AHEAD."
790 PRINT:PRINT:PEN 1:PRINT"       THE OBJECT OF TH
E GAME IS TO GET   4 OF YOUR COLOURED COUNTERS IN
A ROW."
800 INK 1,26:INK 2,1:INK 3,24:LOCATE 1,25:PRINT"
      <SPACE BAR> TO CONTINUE"
810 WHILE INKEY(47)<>0:WEND:CLEAR INPUT:CLS:INK 1,
0:INK 2,0:INK 3,0
820 PEN 2:FOR f=1 TO 25:LOCATE 1,f:PRINT STRING$(4
0,203);:NEXT
830 PEN 1:LOCATE 12,2:PRINT"CONNECT 4  RULES"
840 PEN 3:LOCATE 1,5:PRINT"1 : CHOOSE WHO PLAYS 1s
t,THIS WILL THEN      ALTERNATE WITH EACH GAME."
850 PEN 1:PRINT:PRINT"2 : EACH PLAYER IN TURN SELE
CTS A ROW        FOR THE COUNTER TO BE DROPPED IN."
860 PEN 3:PRINT:PRINT"3 : PLAY ALTERNATES UNTIL ON
E PLAYER         GETS 4 IN A ROW."
870 PEN 1:PRINT:PRINT"4 : THE FIRST PLAYER TO GET
4 IN A ROW       IS THE WINNER.".
880 PEN 3:PRINT:PRINT"5 : IF NOBODY HAS GOT 4 IN A
 ROW AFTER       ALL THE SPACES HAVE BEEN FILLED TH
EN    A DRAW IS DECLARED AND EACH PLAYER       GETS
 HALF A POINT."
890 INK 1,26:INK 2,3:INK 3,24:LOCATE 1,25:PEN 1:PR
INT"        <SPACE BAR> TO CONTINUE":WHILE INKEY(
47)<>0:WEND:CLEAR INPUT:CLS
900 INK 1,26:INK 2,24:INK 3,7:GOSUB 620
910 PEN 1:FOR f=1 TO 5:READ x,y:LOCATE x,y:PRINT c
ir$:NEXT
920 DATA 15,22,15,19,15,16,11,22,11,19
930 PEN 2:FOR f=1 TO 6:READ x,y:LOCATE x,y:PRINT c
ir$:NEXT
940 DATA 23,22,19,22,19,19,19,16,19,13,15,13
950 PRINT#1,"This is an example of 4 in a row -
   VERTICAL.Win for yellow."
960 WHILE INKEY$="":WEND:CLS:GOSUB 620
970 PEN 1:FOR f=1 TO 5:READ x,y:LOCATE x,y:PRINT c
ir$:NEXT
980 DATA 31,22,27,22,23,22,19,22,23,19
990 PEN 2:FOR f=1 TO 4:READ x,y:LOCATE x,y:PRINT c
ir$:NEXT
1000 DATA 15.22,19,19,23,16,27,19
1010 PRINT#1,"This is an example of 4 in a row -
   HORIZONTAL.Win for white."
1020 WHILE INKEY$="":WEND:CLS:GOSUB 620
1030 PEN 1:FOR f=1 TO 6:READ x,y:LOCATE x,y:PRINT
cir$:NEXT
1040 DATA 7,22,11,22,11,19,11,16,15,19,19,22
1050 PEN 2:FOR f=1 TO 7:READ x,y:LOCATE x,y:PRINT
cir$:NEXT
1060 DATA 15,22,23,22,23,19,19,19,19,16,15,16,11,1
3
1070 PRINT#1,"This is an example of 4 in a row -
   DIAGONALLY.Win for yellow."
1080 WHILE INKEY$="":WEND:CLS
1090 RETURN
```





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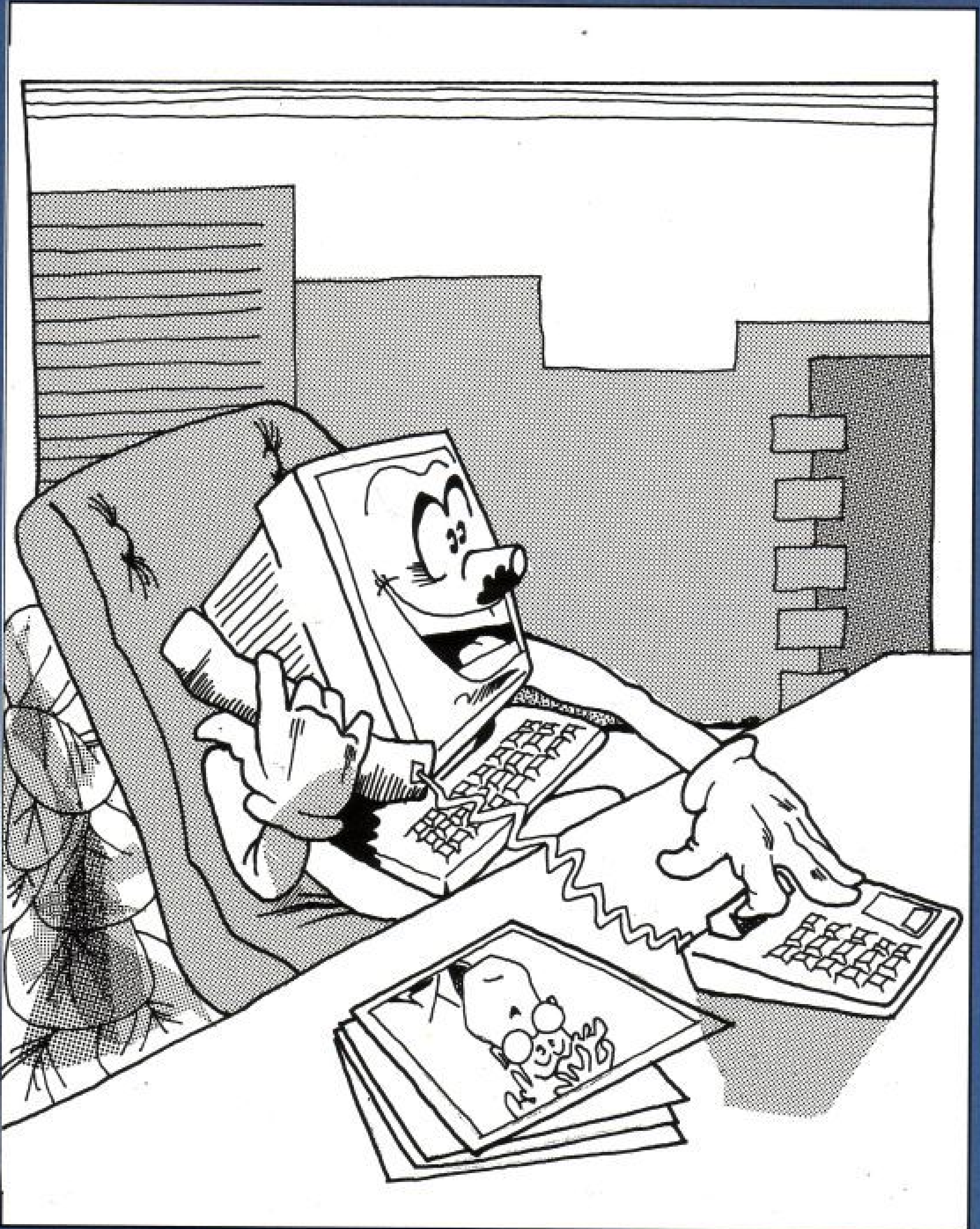
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Nick Hutton continues where he left off last month with some excellent PD host systems for your Bulletin Board aspirations, along with some handy addresses.

HOW TO BE A SYSOP (Part 2)



Last month, we looked at the hardware front of your BB system and I promised you some information about host systems, both for the CPC and other machines. Well, true to my word, cast your eyes over this little list and see what you fancy

Wildcat BBS

This is a preview or test version of the full BBS system with all features. It is designed to allow the user to evaluate the program and see if it meets his or her needs. Not all commands and features are present but most are. A large and well-written document file accompanies the program and this does list and explain all the features. A few notable features which the full version exhibits are fast B-Tree indexed access to all file areas and message areas, basically this means that you don't need to go through half a dozen pages to move around the board. It supports almost all modems and speeds from 300 to 19200 baud. You can create up to 26 separate message areas and there is great scope for customisation of the log on messages and overall appearance.

Opus

Opus is a comprehensive bulletin board system incorporating advanced well thought out messages and conference areas as well as a decent file download/upload manager. It is compatible with the Fidonet system and requires no reconfiguring to allow it to receive and transmit fidonet mail packets. This software is quite popular and the fidonet features really make it a good choice for many people.

EaziHost

Eazihost is a user friendly comprehensive bulletin board system. Originally it was derived from the limited host mode of the public domain eazilink terminal emulator and comms software. There are strong similarities between the operation of the host system and the popular all-purpose comms version, and users of the terminal emulator will have no trouble finding their way around this piece of software. Eazihost is possibly the easiest of all bulletin boards to setup.

Its features include Access levels, Ansi graphics, special user sections, user time limits, multiple message receive, bulletins, doors, archive viewing

and good help features. In short very easy to get started on.

Minihost

Minihost is not really like the other BBSs I have mentioned so far. It is geared mainly towards specialist business use and as such may be a little limiting for the home user. The program can be used on any PC with dual floppy but a hard disc would be nice. It supports colour displays and has levels of security access. One word of warning though, it only supports ascii or x-modem protocols. Probably the greatest or most interesting feature of this system is the ring back facility for the sysop. The sysop dials his computer from a remote location and enters his password and user identity and then hangs up. A short time later his computer at home then dials out to the sysop, hence the sysop is not charged for the call, the computer (person) at home gets the bill. This sort of feature is much used by banks and also company reps wanting to leave messages for the boss from all over the country.

RBBS

Remote Bulletin Board System
If you are looking into the more technical side of communications then this could be the package for you. It supports speeds up to 19200 baud and will run happily under multilink and desqview, I was also surprised to find that it will run under most networks. Passwords and user conferences are provided for. I,X, and Y modem protocols are supported as well as kermit. Extensive reading of the documentation for this package is required before its powerful features can really be put to use.

Electronic Information

This package is well designed and fast. It supports good message editing, a 100-page manual, 999 message areas, it is also easy to tailor it to your specific needs. It is an excellent shell for an online system.

Towernet

This is a highly advanced bulletin board system and e-mail facility. It supports password security and also network communications. The idea is that users enter a central hall and are given the option to go through a door into one of the conference rooms. The original piece of software was quite old and will probably look dated now, but towernet is still a very powerful setup. Not really for the first time user.

Searchlight BBS

This is the system under which Maxwell House is run. It is a full screen bulletin board and electronic mail system which can be adapted for use in the home or in the office. Many sysops use it and support is excellent. It features a wordstar workalike message editor and is highly advanced. You can incorporate up to 24 message areas, each will hold about 300 separate messages. This system is unusual in that it will let users post bulletins as well as messages. Provision is made for external programs to run, for example online games. In my view this is the best system available for the IBM PC.

ArcBBS

This is an ansi based bulletin board system for the Archimedes range of computers. It runs in a window and so can run in the background while you get on with some work. I have not had the chance to use it myself and so I can't really give an in-depth view of its capabilities. At a glance it is easy to use, flexible, and packed with features. It is constantly being updated and support is growing fast. The documentation is provided on disc in archived form and you will require a machine of 1 megabyte or more to run it. There is great scope for customisation and the menu system it uses is fast and clear. For a look at this product in action you could dial 'the world of cryton' on 0749-79794. The only drawback with the package is its price, at around £100-110, it isn't cheap.

Please note that some of the above shareware programs should be registered if you find them useful.

OK you have decided to set up a board, you have chosen your machine and now all you need to know is where to get the other hardware and software.

Hard Drives

I have found Seagate drives excellent and there is a vast range, right from small cheap efforts to huge fast drives which cost rather more than I suspect any sane person would like to spend. The best places to get hard drives are the specialist vendors. They always have someone on hand who knows his or her stuff, it's a lot more reassuring talking to an enthusiast who happens to sell hard drives than some salesperson who has read his sales pitch a couple of times and wouldn't know zone bit recording from SCS1-2 if he attended a week's intensive course.

Sadly there are only a few places which really know what they are talking about, however I have found one or two.

Commonside Hardware Services
Unit 13
193 Garth Road
Morden
Surrey
SM4 4LZ
Tel: 081-330 7533

Modems are an interesting area from the buyers' point of view. These days prices of 9600 baud modems are coming down FAST. There is a lot of undercutting going on recently, and it is possible for you to pick up 2400 MNP 5 modems for less than £160 these days. As with hard drives some after sales support is really useful and once again not all vendors are very willing to provide you with it (well not for free at least). I have found a few decent modem vendors but the best I have seen for prices, range and after sales service is listed below.

Speedmodem
6 Dixon Street
Glasgow
G1 4BB
041-204 4310

Software is a little difficult to buy from shops as they do not expect to sell much bulletin board host software. Some shops may be able to order it for you but your best bet for the CPC and IBM PC is to look in the public domain.

As you have read, most of these programs are very professional and a joy to use. They are, in general, comprehensive with excellent support. Remember, if you have a problem then normally there is someone you can e-mail who will have the answer. Why not try Maxwell House first! If you own an Amiga there are also several host systems in the public domain, I haven't used any of these and so I'm not sure of how good they are. Remember, the host software is your datamanager, security system, and front end, which every user will see when he/she logs on. It should not be too complex for a user to move about the system, time is money when you are online!

BITS

For Sale

FIRMWARE GUIDE for the CPC 464, also Devpac, RS232C Interface, leads and manual. All boxed, all Amstrad/Amsoft gear, excellent condition. What are they worth? Ring 0227 272671.

OVER 50 ORIGINAL Amstrad games on tape, including Pipe Mania, Captain Blood, Exolon and Monty Python. Worth over £450, will sell for £50. Telephone 0480 811045 and ask for James.

ON DISC Pinball Magic, Afterburner, Shadow Warrior, Sly Spy, Fiendish Freddy's Big Top. Light Gun for 464 and 6218 (not Plus) £15 + games. Disc games from £3.50 to £7.50. Mick Williams, 78 St Pauls Road, Chichester, W.Sussex. PO19 3DB. Tel: 0243 773940.

FIVE GREAT GAMES in M/Code, good graphics, great playability, reviewed AOK issue 4. £2.50 if you supply disk, or £4.90. Tape £2.50. Kevin Heywood, 18 Sinclair Avenue, Banbury, Oxon. OX16 7DW.

ACU all issues from Jan. 1987 to Dec. 1990. Offers? Unused JY3, £10. MP2 £15. MP3 £25. Used but perfect DMP2160 £75 plus P+P. Tel: 0483 771499.

FOR SALE Adidas Championship Football on disk. The Train (cass) and Pub Trivia Quiz (cass) £9 the lot. Not compatible with the Plus machine.

CPC 464 colour monitor, stereo speakers, Multiface 2, ram music machine, around 60 magazines. Over 200 games, all worth over £850, will sell for £300. No offers. Telephone Mark on 0254 852814.

AMSTRAD CPC128 colour monitor, printer (DMP2000), stereo system plus £1000 disc software and magazines. All for best offer over £399. Fantastic value as must sell to make space. Telephone Paul on 0488 38395.

FOR SALE FD1 second drive. 10 months old with lead. As new, hardly used. £70 ono. Telephone 0244 812041.

GRAPHIC ADVENTURE Talisman of Lost Souls. Over 70 locations to explore. "A very enjoyable adventure...82%" Artificial Intelligence Issue 2. Amstrad CPC/Plus: £3.50 tape, £5 disc. Cheque/PO to: T.Kingsmill, 202 Park Street Lane, Park Street, St. Albans, Herts. AL2 2AQ. Overseas, add £1.

OFFERS PLEASE Soft 968 Firmware Guide. CWA 1987 and 1988. ACU 1987 to date. AA 1987 to date. All with binders. MP2 modulator. R.Jones, 8 Taylor Road, Snodland, Kent ME6 5HH.

FOR SALE 464 computer, disk drive, 64K memory expansion, Green Screen monitor, MP1 modulator, tapes, discs, joystick. Offers over £200. Bargain. Will split. Phone 051 727 7523. You pay postage.

PACK OF 10 3.5" discs DS/DD and labels. Free P&P. Send cheque for £7 per 10. Any amount. Also Mini Office II cassette as new £6. Write to R.J.Amison, 56 Drubbery Lane, Burton. Stoke-on-Trent. ST3 4BH or ring 0782 318548 for details.

Wants/Swaps

I HAVE Amstrad Action 3 onwards (2 missing). Computing with Amstrad (2 missing). 40 ACUs to swap for hardware e.g. Vidi Digitiser or Spectrum +2. Call Joe on 0274 543063.

WANTED Handbook for the CPC464 (Amstrad). Telephone Paul on 031 661 4929.

WANTED CPC basic tutor book. Instructions for Tas-Spell and Amsoft Screen Designer. Will pay cash or new Norwegian mint stamps. Please write first to Tor Sjursen, Furuvegen 10, N-4250, Kopervik, Norway.

WANTED MP2 modulator for CPC464. Phone 0685 814861.

WILL SWAP Arcadia, Operation Thunderbolt, Chase HQ, NZS, for any two of Lords of Chaos, Total Eclipse 1/2, Cyberball. Phone sunday mornings for Mark on 041 942 2304.

DESPERATELY WANTED MP3 modulator in excellent condition. Phone 0606 842002 any evening and ask for Craig.

WANTED CPC 6128 with colour monitor will pay cash. Phone 081 300 1188 daytimes, or leave phone number. George Pullar.

DESPERATELY WANTED CF-2 Amstrad disks. Willing to pay. Contact Michael Pacione at 28 Elizabeth Acenue, Milton of Campsie, Glasgow. G65 8HT immediately, or as soon as is humanly possible.

SWAP 3D kit, Pandora, Master Calc, Cash Book, Ace, Pipe Mania, Smugglers Cove, Rogue Trooper for DDi-1 disc drive or sell for £40 plus postage. Phone John on 081 533 3793 now.

WANTED PD software. Any programs welcome. I will return all cassettes and discs with some of my own programs. Contact Stewart Eversham, 154 Thorne Road, Wheatley Hills, Doncaster. DN2 5AE.

SWAP Rick Dangerous II for Man. Utd in Europe, Switchblade or Hero Quest. Write to: Manjinder Sandju, 15 Morris Drive, Whitnash, Leamington Spa, Warks. CV31 2RQ.

Services

DIZZY SOLUTIONS for Dizzys 1,2,3 and 4, including maps. £1 each or £3.50 for all four. Send anSAE to Iain Revill, 43 Paddock Close, Calverton, Notts. NG14 6GJ.

CHEAP ADS, penpals, swaps, for sales, fanzines etc... Send two second class stamps for details to D.L.O'Gelsby, 59 Springfield Street, New Basford, Nottingham. NG7 7DU

HELP GIVEN on Dizzy's 1-4. Fast Food, Kiwk Snax and Panic. 50p each. Write to M.Pacione, 28 Elizabeth Avenue, Milton of Campsie, Glasgow. G65 8HT. For full list or send money if help wanted.

I WILL CREATE a quality loading screen for any game you have written. Tape only. Send 75p, SAE, game on tape and blank tape to Joe Walters, 8 Chater Road, Oakham, Leics. LE15 6RY.

PROGRAM to list 540+ multiface pokes. Choice of output to screen or printer. Send blank disc, £1 and SSAE to Stephen Muddell, 3 Bexhill Road, Eastbourne, Sussex. BN22 7JH.

HELP GIVEN on Dizzy 1+3. Maps etc.... Help wanted on Dizzy 2, maps, hints, tips, pokes etc. Pokes for a number of games. Send SAE for details to Teresa Guy, 123 Wolverhampton Road, Cannock, Staffs, WS11 1AR.

DEMON PD Software library-Write with SSAE for catalogue to 47 Hilton Avenue, Hall Green, Birmingham. B28 0PE.

HELP OFFERED on all aspects of BASIC and assembly language programming. Don't forget to send an SAE. San McManus 286 Chertsey Rise, Stevenage. Herts. SG2 9JQ.

CONVERT your 464 to 6128. Keep 464 equipment and buy 6128 programs. Both will work. Microchip conversion carried out. All you need is disc drive. Example Stop Press DTP on 464. Contact R.J.Amison, 56 Drubbery Lane, Burton, Stoke on Trent. ST3 4BH. 0782 318548.

I HAVE STARTED A BUSINESS for people who require tailor-made programs for all CPCs. Also, does anyone have a Firmware Guide for the 464 to lend. Contact Mr.Manning, 9 Steerforth Street, London SW18 4HH.

WOW SOFTWARE is a company selling new and re-released adventure games for the CPC. Send SAE for the latest list to 78 Radipole Lane, Weymouth, Dorset. DT4 9RS.

AMSTRAD COMPUTER PARTS available for the entire range. Plus many computer accessories available. Just call me or write to J. Hayward, 53 Eny Road, Cardiff. CF5 2JF. 0222 554369.

Fanzines

NEW FANZINE for the Amstrad and C-64 tape. We will review PD, so please send any PD and other software for review to R.Stedman, 8 Wulfruna Gardens, Finchfield, Wolverhampton WV3 9HZ.

CROCO+ The European fanzine for the Amstrad 6128 is here! 720K of hints, tips, reviews, pokes and interviews. Please send a 3" disk, £1 and SSAE to Songyow Ly, 8 Wooderson Close, South Norwood, London SE25 6JP.

LFACC printout. Cheats, Beginners' pages competitions, PD, M.C/BASIC, adverts, picture pages, gossip, reviews etc. Only 70p. Add 20p if overseas. Alex Banks, Tickeywood, Crapstone, Yelverton. Devon. PL20 7PW. Tel: 0822 852085.

ADVENTURER'S HERALD Out now, with news, reviews and just about everything to do with adventure. Only 80p from PO Box 522, Tweedale, Telford, Shropshire. Any budding reviewers please get in touch.

CPC FANZINE called Play Mates. Full of reviews, tips, pokes and Bonzo news, with P&P just £1. Carl Surrey, 37 Fairfield Way, Barnet, Herts. EN5 2BQ.

AOK Fanzine. Includes features, reviews, type-ins, small projects and more. Send 60p (includes P&P) to Paul Escott, 31 Colebrooke Road, Shriley, Solihull, West Midlands B90 2LB.

Penpals

DOES ANYBODY who lives in the Kircaldy, Fife area want to come along to my house in the Glebe Park/Baulsusney Road area and share programs and games? Contact Ross Anderson, 12 Maria Street, Kircaldy, Fife, Scotland.

CPC PENPALS wanted to swap games or demos on disc or tape. Send your lists to Carl Wilson, 64 Fishponds Road, Kenilworth, Warks CV8 1EZ. Greetings to NWC and CBS.

PENPALS WANTED to swap games and demos on disc. Any age, any country. Help also given on new and old games. Write to Richard Wildey, 41 Enmore Gardens, London SW14 8AF.

So there you have it, yet another wild assortment of goodies, penned by yourselves, for yourselves. Take a good look through and see if there's anything you need. If not, then write in telling us what you want and we'll make sure it gets an airing.

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PIECES

PIECES

Here, at long last, is the first collection of goodies for your perusal, and possible purchase, from the homebrew creations centres. This month, we are featuring eight exceedingly smart games from the John Kennedy and Angela Swinbourne stables. Take a look through the brief overviews of each game below, and then pick out which ones you would like to have in your collection.

At the moment, the games are only available on disk, as some only work on the 6128/+. Send in your own blank disk and the games will set you back £1 each.

For example, one blank disk should hold one game on each side. Therefore, choose which two games you want on your disk, send it in with a cheque/PO for £2 etc., made out to CES, and your choices will soon be winging their way back to you.

If you would prefer to receive a new disk containing two games, then send in a cheque/PO for £5 and your wish is our command.

Send all of your requests to CES, ACU, Sunnyside Cottage, Carluddon, St. Austell, Cornwall.

Now then, sit back, relax and read through this month's selection of games offerings before mixing and matching to get the games you want.

GAME 1: DRIPZONE: Featuring some truly remarkable digitised speech samples, terrific sound effects and groovy gameplay, this little gem from John (Aunty) Kennedy is an Arkanoid style ball bouncer, which sees you trying to complete a noughts and crosses style game as the sub-plot. Guaranted to drive you crazy, this is a cracking homebrew offering. (6128 only).

GAME 2: ESCAPE: This escape from Wacci offering sees you tramping around the corridors in a desperate bid to find the key to get out. Meeting up with some scurrilous characters along the way, the neat graphics programming gives a triple screen effect and isn't half bad. (6128 only).

GAME 3: INVADERS: Yep, you've guessed it. This is good old space invaders back again to haunt you, featuring some excellent graphics and sound effects. If you are still hooked on the oldies, this one should be right up your street.

GAME 4: PACLUNCH: Yet another remake of an original classic, this time in the form of Pacman. Gobble up the dots and keep a close eye on the baddies. Starting off pretty easily, you'll soon be tied up in knots in this excellent reproduction.

GAME 5: BEETLE: Beware, the Blobs have attacked and are now entering your neighbourhood. Fuelling up your VW Beetle, you must scour the excellently devised streets to pick up bomb parts. Next, you must place them by the duckponds to destroy the Blobs' favourite friends, the Rubber Ducks. Clever gameplay and plenty of fun, this one should keep you amused for hours.

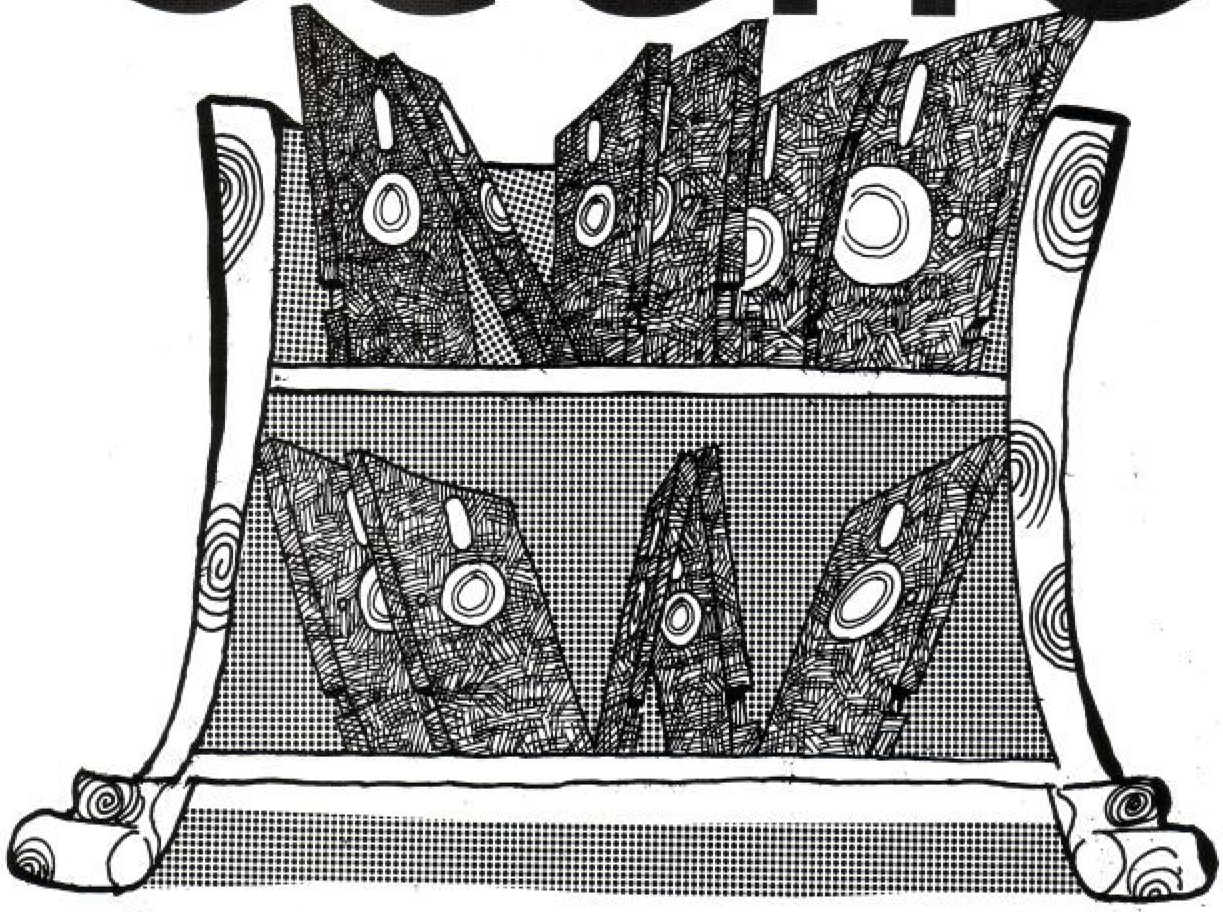
GAME 6: LIFE: Here's another gem based on an original, this time the Game of Life, where you must create your own cell cultures and adapt them to your liking. Plenty of pretty patterns to watch, as well as some unusual outcomes from your genetic engineering.

GAME 7: CLOAKER: A truly remarkable two-player strategy offering which sees you and a friend battling it out with your alien ships for domination of the playing grid. Power up your ships, cloak them and move them around stealthily to take the advantage. Full colour and with clear instructions, this one has to be seen to be admired.

GAME 8: PACIFIST: In a world hellbent on destruction, you must capture and transform the members of three different armies to your pacifist cause. Place obstacles in their paths and use anything you can lay your hands on to stop them before they tear each other to pieces. Played on a turn by turn basis, this is another strategy offering from the Angela Swinbourne stable (Cloaker is also hers), which will need your best attention at all times.

Don't forget, most of the proceeds of these games go to the creators themselves, encouraging the growth of more homebrew games. Look out for the serious stuff very soon and don't forget to send in any offerings you may have yourself to the address above. See you next month.

PD Scene



New names on the Public Domain Scene and a handy screen editor from Data PD. Bob Adams investigates

Hello and welcome once again to our monthly round-up of all the exciting news that is happening in the ever growing world of Public Domain. As you know, each month I end my article by asking libraries to send in their latest programs for review in these pages and up until now I have been very happy with the responses. I can however see a 'Catch 22' situation developing in the future, when those that have already sent me discs are waiting to see if I write about them, or at least wait until their discs have been returned before they send me any more to review. This is a point of view that I can sympathise with but, unfortunately, it can also result in me having nothing left at all to review. Why, you ask? Alright, I'll tell you. Basically it all revolves around time. There is approximately a three month gap between when I write this and when it ultimately appears in print. Add to that the time I need to actually study the programs before I can form an opinion of them and you are talking about nearly four months. I then need to send your discs to ACU Towers so that they can be used for screen shots to make this page appear a bit prettier and show off your programs (a picture tells a thousand words), then our wonderful editor Chris (Sir) has to remember to return them to me (are you reading this bit, Chris?) before I can return them to you. Phew, we are up to five months now and the time lag is still growing.

So my message to all the Public Domain libraries is a simple one. If you wish to see this column appear on a regular basis - please do not wait until you see your last disc appear in print before you send me your latest material. Send it to me as early as possible. Thank you.

Okay, apologies to all of you non-librarians for delaying the start of this month's article with the above but I'm sure you understand just how important it is that I receive new material. And now on with the news.

Tony Kingsmill who runs the DATA PD LIBRARY has been waiting patiently in the wings for a mention in this column and now his time has come. He has sent me a packed disc which includes a detailed catalogue of his library, how to order, latest news, adventure help-line, game cheats and some home-brew plugs (for wine making maybe?) Tony has also asked me to tell you that all cheques must be made payable to TONY KINGSMILL as he cannot cash them if they are made out to DATA PD. Apparently he has received cheques for DATA PD including some from as far away as Australia and they are quite useless to him. Any Aussies reading this and wondering why they never received their software, now know the answer. Tony's library is also available on tape but from a different address. David Nagle is the man to send an SAE to and you can find him at 4 Hare Lane, Hatfield, Herts AL10 8PP. Just ask for a DATA PD Cassette Newsletter.

So what is on offer? Well just about everything really. A look at the DATA

PD stock list reveals 29 selections of PD software ranging from Adventures, Utilities, Applications, Games, Clip art, Demos, Fonts and did I mention Adventures? It is amazing how popular adventures are once again, particularly in the PD Scene. I counted 54 available on the dedicated Adventure discs and this does not include several more games hidden away on the 'various programs' discs. After reviewing the ADVENTURE PD library last month, I seem to be talking about adventures as often as the Dungeon Master does these days. So I won't say another word about them but instead I'll tell you about a program written by Tony Kingsmill himself, entitled SCREEN EDITOR .Screen Editor's purpose in life is to allow you to design screens by combining text and graphics on your screen and to then print them out using a printer dump facility. Although it was written on a 6128, Tony feels that it should run on all CPC and Plus machines without any problems. As I also use a 6128, I cannot contradict or confirm this statement. Instructions are supplied in a DOC file which is accessible from the main menu and are simple and mostly logical to follow. The entire program is keyboard driven and all functions only need a single key press.

For example, T = Text; L = Load Screen; F = Fill Area (6128 only); C = Clear Screen; Q = Quit to Basic: X = Load New Character Font; P = Dump to Printer; K = Start/End Line; B = Big Font Mode; D = Print Dot; R = Spray; E = Erase Block; H = Help; Z = Current Speed Change; M = Merge New Big Font Set.

As you can see from that list, a wide variety of facilities are available to custom design your own screens from scratch, plus it is also possible to import graphics from other art packages and alter them or add text, etc. One of the features that I liked best of all was that in the bottom left hand corner was a constantly updated display of the X and Y position of the cursor. No excuses now for those box corners not quite meeting where they should. A demo screen is included with the files and this shows what the program is capable of producing. Highly recommended to all budding DTP people who want to play around with text and graphics, but cannot afford a commercial package. As with all DATA PD selections (a selection equals one side of a disc) this one will cost you £1 plus a DATA formatted disc.

Two new PD libraries vying for attention have written to me this month. Scott Williams has started a club called PROFESSIONAL PD and they are based at 27 Perebrown Avenue, Newtown, Gt Yarmouth, Norfolk NR30 4BE. He wants to build up a library of tapes only, not discs. He is inviting readers to send him their tapes and the best one each months wins £10. By the way, he tells me that he only has one tape at present. The other new library is called WHIZZ PD and is being run by Glenn Whitehouse who resides at 20 Cross Street, Stockingford, Nuneaton, Warks CV10 8HY. Glenn is also appealing for contributions in exchange for money-off vouchers but he already has enough to put a stock list on your disc plus a SSAE. A newsletter can be obtained by sending 30p or a SSAE and Glenn says that although his library is disc only, he will consider making tapes available if there is enough demand. I wish both of these new libraries the best of luck and I look forward to receiving some programs from them for reviewing in the near future.

As usual, I'll finish off with a list of the libraries who have contacted me and sent in examples of their programs and/or a catalogue. If you are a Public Domain library or wish to recommend one or even a particular program, then I'll be delighted to hear from you. You can contact me care of ACU at the address on page 12.

Adventure PD.
10 Overton Road,
Abbey Wood,
London. SE2 9SD.

Data PD Library.
202 Park Street Lane,
Park Street,
St Albans,
Herts. Al2 2AQ.

DW Software.
62 Lascelles Avenue,
Withernsea,
North Humberside. HU19 2EB.

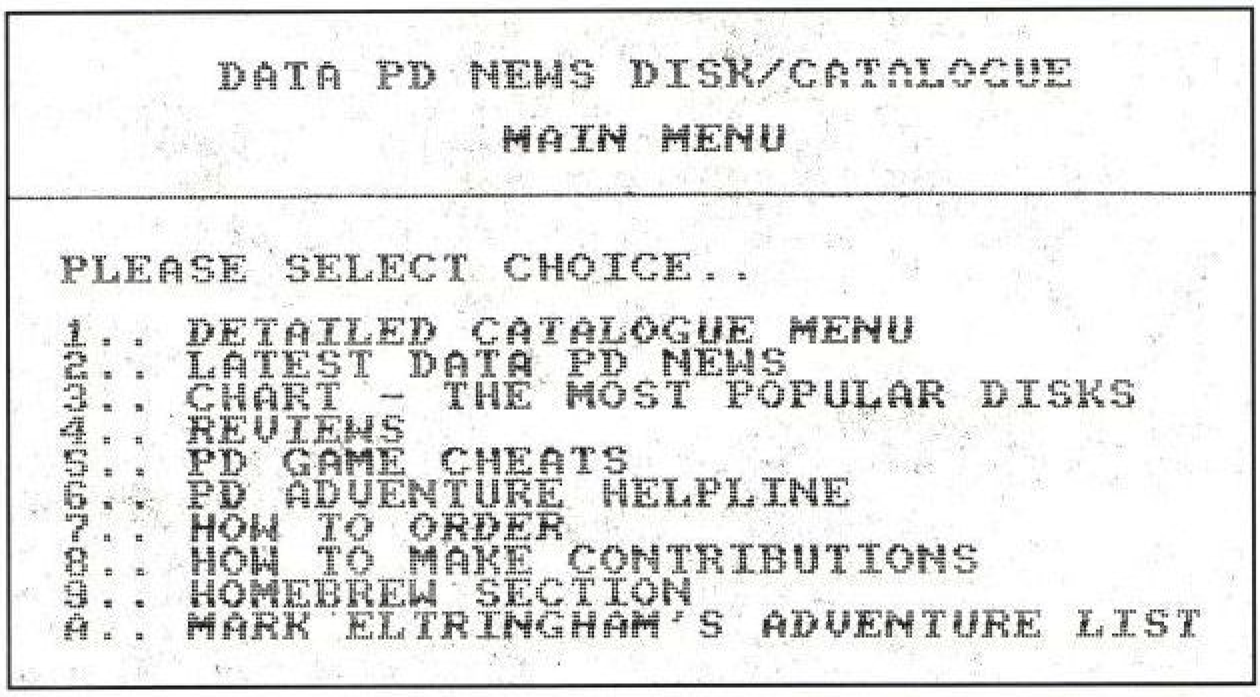
Penguin Software.
Ruxley House,
28 Mount Hermon Road,
Woking,
Surrey. GU22 7UH.

Robot PD Library.
2 Trent Road,
Oakham
Rutland. LE15 6HF.

Dartsma PD Library.
C/o Adam Shade,
47 Kidd Place,
Charlton,
London. SE7 8HF.

For those with a Modem, try downloading from the CPC areas on:-

MAXWELL HOUSE 071 828 1577
PRESTON ROS 0772 652212



Back to Basics

As Gallant Gordon dashes off to deal with 16-bit damsels, a new face takes the helm in the world of CPC Comms



Hi! I'm Struan Bartlett and I'm taking over the Comms column from Gordon, who's moving on to better things! Since we want to encourage more people to enter telecommunications, or 'comms' as it is more often referred to, I'm going to take the column back to basics. 'What', you may or may not ask, 'can comms offer me?' Well, comms in action, usually over a telephone line on a Bulletin Board System (BBS), can be used for getting to know people around the country and/or the world, helping people or getting help for your own problems, getting hold of software, and much more. Above all, it is enjoyable. I'm not someone who has loads of dosh, and I realise that lots (if not most) of modemers (present and prospective) don't either. These columns will (I hope) show how to take part in comms relatively cheaply and simply.

So what do you need to get started? There are really 5 essentials. The first is a computer (trusted CPC). I hope I can assume you have this already. Secondly, you need a phone line. If you don't have one, then getting one is between you and a phone company. You also need a serial interfrace (sometimes erroneously referred to as an RS232 interface) for your CPC, a modem (MODulator-DEModulator), and some comms software (I'll explain the meanings of these terms at a later date). My sources tell me that it is now quite hard to get a serial interface, so all I can suggest is that you

either hunt around for one (new or 2nd hand) or build it yourself, (the latter not being particularly hard to do). The modem is the tricky bit. They've become quite powerful and cheap over the last few years, and it is hard to decide which one to get. The most basic characteristic of how 'powerful' a modem is, is how fast it can send and receive data through the phone line - buying a more powerful modem now though, can pay back tenfold on your phone bill later on. So without me explaining more, my advice is to get one that does v22bis/2400bps (bits per second), (its cost to speed to use ratio is about the lowest), unless you understand the technical aspects involved in getting a more powerful one. These can now be bought new for about 120 quid.

And now to the software. I recommend ZMP by Ron Murray, which runs under CP/M. It supports most standard features, is menu driven and is quite user-friendly. The main reason it stands out from the competition is that it supports Zmodem, about the fastest file transfer protocol (speed means less time which means smaller phone bills!). You can get this from some public domain libraries.

So you've got your modem, serial interface and ZMP. Plug the interface into your CPC, the modem into your phone socket (I hope you have one!) and wait for cheap rate on the phones to come around (6pm-8am or anytime weekends). Then load up ZMP. Operation is quite simple, and the instructions are reasonable - if in doubt press ESC and type H for help. Anyway, the first place you ought to call is a BBS as close to where you live as you can get, (keep the costs down), and download either a national or local BBS line. Now come offline and take note of the BBSs local to yourself and call one of them. By 'local' I mean falling within BT's local call-price category. This is the easiest way to experiment without costing yourself a bomb. If you're lucky and a local BBS supports loads of file areas and a national mail transfer system (eg Echomail) then you will hardly ever need to phone away from your local BBS.

So how do you dial up a BBS? If you don't have an auto-dialling modem you'll need to dial the number on your phone first (read your modem's manual!). Assuming you do, you can install the BBS's name and number in the ZMP dialling directory. Press ESC and type C. P. Now select a dialling entry, and input the BBS's name, number, speed to call at (usually the smaller of the maximum speed of your modem and the maximum speed of the BBS, eg 300, 1200, 2400), 3 serial interface configurations (copy these from the BBS list that you gots its number from, or use N-8-1 if in doubt). It's not essential to know the meaning of all of these, but suffice to say that each BBS sets its serial interface to a particular configuration, and your interface needs to be set the same. Leave the last entry about duplex as 'Full'. Then press ESC twice and type 'y' to make the changes permanent. Now simply press ESC and type 'I' and then either wait 4 seconds for the dialling directory to appear, or type a letter corresponding to your chosen dialling directory entry, and if all is well, away you go! (If you have problems then either read a book or the modem/serial interface manual or get someone to help you. There are too many things that could be wrong for me to list them here.)

Listed below are selected BBSs from the national list which claimed to have some kind of Amstrad connection. There will very likely be other BBSs closer to home than these mentioned. Due to my earlier mentioned lack of pocket I cannot be sure that all of these are still operating. If you discover any that aren't, or can condescend to contact me about any other comms subject under the sun, then please drop me a line, or send a message by Echomail in the General, Comms, or BBS areas. Bye for now!

A = 300/300 (V21) B = 1200/1200 (V22) C = 2400/2400 (V22bis) D = 1200/75 (V23) N = N-8-1

Maxwell House	071 828 1577	London	ABCN
MBBS Mitcham	081 648 0018	London	ADN
Chrono's Lair	021 745 7154	Shirley	ABCN
Digital Matrix	021 705 5187	Solihull	ABCDN
K-Wood BBS	0608 83458	Great Tew	ABCN
Sherwood Forest	0602 397113	Nottingham	ABCDN
Tug II	0905 775191	Droitwich	ABCN
Log On in Tynedale	0434 60639	Hexham	ABCN
Metnet Triangle	0482 449028	Hull	ABDN
Diggertel 1	0925 411265	Warrington	ABCDN
Mektronics	061 773 7739	Manchester	ABCDN
Pussycat	061 236 0351	Manchester	ABCN
Forth View	031 660 6680	Dalkeith	ABCDN
Scott PCW	031 334 7041	Edinburgh	ADN
BBS09	0243 379374	Emsworth	ABCN
Cats Board	0628 824852	Maidenhead	ABCN
Scottish Opus 1 & 2	041 880 7863/45	Barrhead	ABCDN
Diamond 1 & 2	0791 86504/901	Hassocks	ABCN/ABCDN
Gabbs	0705 524805	Gosport	ABCN
Hornchurch BB	0402 473041	Hornchurch	ADN
Ichthus TBBS	0734 461466	Reading	ABCDN
Infotel	0737 766027	Redhill	ABCDN
Lightfingers Place	0202 485723	Christchurch	ABCDN
Winchester Remote	0962 869322	Winchester	ABCN
Free Net 1 & 2	0452 330244/38	Gloucester	ABCN
Satellite SW 1	0626 888330	Dawlish	ABCN

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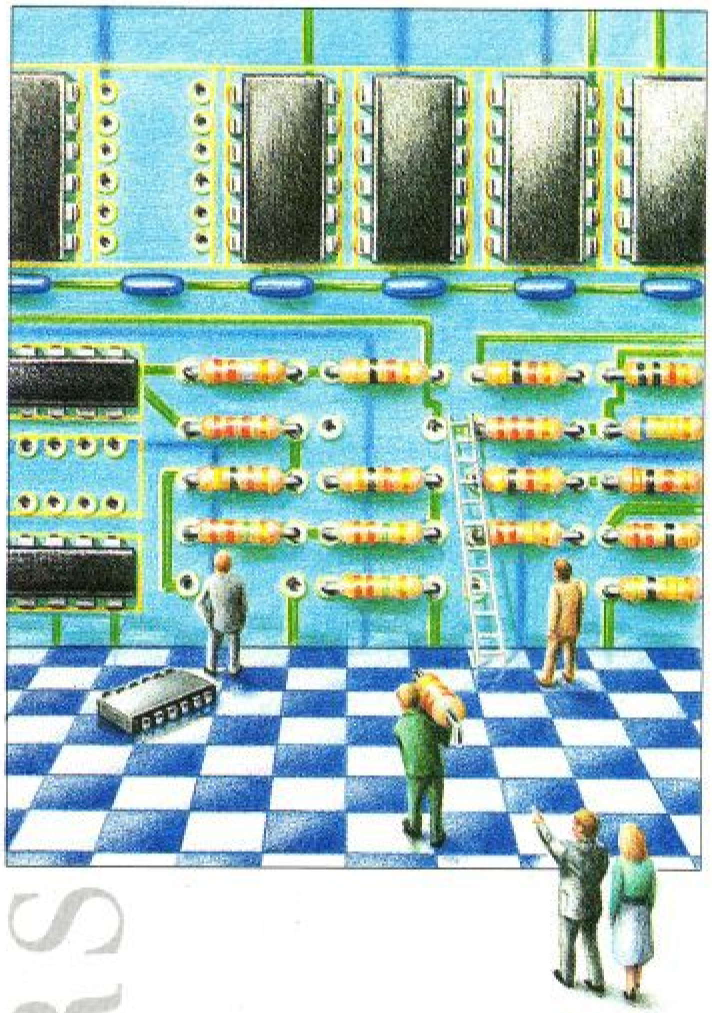
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